#13

SEQUENCE LISTING

<110> Gangolli, Esha A
Spytek, Kimberly A
Gilbert, Jennifer
Casman, Stacie
Blalock, Angela
Li, Li
Vernet, Corine
Shenoy, Suresh
Mishra, Vishnu S
Furtak, Katarzyna
Gerlach, Valerie L
Edinger, Shlomit
Malyanker, Uriel
Stone, David
Millet, Isabelle
Smithson, Glennda
Gunther, Erik
Ellerman, Karen
Padigaru, Muralidhara
Taupier Jr., Raymond J
Anderson, David W

<120> Novel Human Proteins, Polynucleotides Encoding Them and Methods of Using the Same

<130> 21402-191

<140> 10/055,569
<141> 2001-10-26

<150> 60/243,642
<151> 2000-10-26

<150> 60/243,320
<151> 2000-10-26

<150> 60/243,592
<151> 2000-10-26

<150> 60/243,681
<151> 2000-10-27

<150> 60/243,863
<151> 2000-10-27

<150> 60/244,443
<151> 2000-10-31

<150> 60/245,029
<151> 2000-11-01

<150> 60/244,995
<151> 2000-11-01

<150> 60/244,995
<151> 2000-11-01

<150> 60/245,293
<151> 2000-11-02

<150> 60/245,315
<151> 2000-11-02

<150> 60/245,316
<151> 2000-11-02

<150> 60/262,994
<151> 2001-01-19

<150> 60/269,056
<151> 2001-02-15

<150> 60/272,923
<151> 2001-03-02

<150> 60/276,565
<151> 2001-03-15

<150> 60/318,119
<151> 2001-09-07

<160> 137

<170> PatentIn Ver. 2.1

<210> 1
<211> 1947
<212> DNA
<213> Homo sapiens

<400> 1
atggcatcca gcagtgggag ggtcaccatc cagctcgtgg atgaggaggc tggggtcgga 60
gccgggcgcc tgcagctttt tcggggccag agctatgagg caattcgggc agcctgcctg 120
gattcgggga tcctgttccg cgacccttac ttccctgctg gccctgatgc ccttggctat 180
gaccagctgg ggccggactc ggagaaggcc aaaggcgtga aatggatgag gccacaggag 240
ttctgtgctg agccgaagtt catctgtgaa gacatgagcc gcacagacgt gtgtcagggg 300
agcctgggta actgctggtt ccttgcagct gccgcctccc ttactctgta tccccggctc 360
ctgcgccggg tggtccctcc tggacaggat ttccagcatg gctacgcagg cgtcttccac 420
ttccagctct ggcagtttgg ccgctggatg gacgtcgtgg tggatgacag gctgcccgtg 480
cgtgagggga agctgatgtt cgtgcgctcg gaacagcgga atgagttctg ggccccactc 540
ctggagaagg cctacgccaa gctccacggc tcctatgagg tgatgcgggg cggccacatg 600
aatgaggctt ttgtggattt cacaggcggc gtgggcgagg tgctctatct gagacaaaac 660
agcatggggc tgttctctgc cctgcgccat gccctggcca aggagtccct cgtgggcgcc 720
actgccctga gtgatcgggg tgagtaccgc acagaagagg gcctggtaaa gggacacgcg 780
tattccatca cgggcacaca caaggtaagt ctgggcttca ccaaggtgcg gctgctgcgg 840
ctgcggaacc catggggctg cgtggagtgg acgggggcct ggagcgacag ctgcccacgc 900
tgggacacac tccccaccga gtgccgcgat gccctgctgg tgaaaaagga ggatggcgag 960
ttctggatgg agctgcggga cttcctcctc catttcgaca ccgtgcagat ctgctcgctg 1020
agcccggagg tgctgggccc cagcccggag gggggcggct ggcacgtcca caccttccaa 1080
ggccgctggg tgcgtggctt caactccggc gggagccagc ctaatgctga aaccttctgg 1140
accaatcctc agttccgttt aacgctgctg gagcctgatg aggaggatga cgaggatgag 1200

```
gaagggccct ggggggggctg gggggctgca ggggcacggg gcccagcgcg ggggggccgc 1260
acgcccaagt gcacggtcct tctgtccctc atccagcgca accggcggcg cctgagagcc 1320
aagggcctca cttacctcac cgttggcttc cacgtgttcc aggtggagat cgacgacgtg 1380
atcagcgcag acctgcagtc tctccagggc ccctacctgc ccctggagct ggggttggag 1440
cagctgtttc aggagctggc tggagaggag gaagaactca atgcctctca gctccaggcc 1500
ttactaagca ttgccctgga gcctgccagg gcccatacct ccacccccag agagatcggg 1560
ctcaggacct gtgagcagct gctgcagtgt ttcgggggggc aaagcctggc cttacaccac 1620
ttccagcagc tctggggcta cctcctggag tggcaggcca tatttaacaa gttcgatgag 1680
gacacctctg gaaccatgaa ctcctacgag ctgaggctgg cactgaatgc agcaggtttc 1740
cacctgaaca accagctgac ccagaccctc accagccgct accgggatag ccgtctgcgt 1800
gtggacttcg agcggttcgt gtcctgtgtg gcccacctca cctgcatctt ccactgcagc 1860
cagcacctgg atgggggtga gggggtcatc tgcctgaccc acagacaggt gagccaggtg 1920
tggatggagg tggccacctt ctcctag                                      1947
```

<210> 2
<211> 648
<212> PRT
<213> Homo sapiens

<400> 2

```
Met Ala Ser Ser Ser Gly Arg Val Thr Ile Gln Leu Val Asp Glu Glu
  1               5                  10                  15

Ala Gly Val Gly Ala Gly Arg Leu Gln Leu Phe Arg Gly Gln Ser Tyr
             20                  25                  30

Glu Ala Ile Arg Ala Ala Cys Leu Asp Ser Gly Ile Leu Phe Arg Asp
         35                  40                  45

Pro Tyr Phe Pro Ala Gly Pro Asp Ala Leu Gly Tyr Asp Gln Leu Gly
     50                  55                  60

Pro Asp Ser Glu Lys Ala Lys Gly Val Lys Trp Met Arg Pro Gln Glu
 65                  70                  75                  80

Phe Cys Ala Glu Pro Lys Phe Ile Cys Glu Asp Met Ser Arg Thr Asp
                 85                  90                  95

Val Cys Gln Gly Ser Leu Gly Asn Cys Trp Phe Leu Ala Ala Ala Ala
            100                 105                 110

Ser Leu Thr Leu Tyr Pro Arg Leu Leu Arg Arg Val Val Pro Pro Gly
        115                 120                 125

Gln Asp Phe Gln His Gly Tyr Ala Gly Val Phe His Phe Gln Leu Trp
    130                 135                 140

Gln Phe Gly Arg Trp Met Asp Val Val Val Asp Asp Arg Leu Pro Val
145                 150                 155                 160

Arg Glu Gly Lys Leu Met Phe Val Arg Ser Glu Gln Arg Asn Glu Phe
                165                 170                 175

Trp Ala Pro Leu Leu Glu Lys Ala Tyr Ala Lys Leu His Gly Ser Tyr
            180                 185                 190
```

```
Glu Val Met Arg Gly Gly His Met Asn Glu Ala Phe Val Asp Phe Thr
        195                 200                 205

Gly Gly Val Gly Glu Val Leu Tyr Leu Arg Gln Asn Ser Met Gly Leu
    210                 215                 220

Phe Ser Ala Leu Arg His Ala Leu Ala Lys Glu Ser Leu Val Gly Ala
225                 230                 235                 240

Thr Ala Leu Ser Asp Arg Gly Glu Tyr Arg Thr Glu Glu Gly Leu Val
                245                 250                 255

Lys Gly His Ala Tyr Ser Ile Thr Gly Thr His Lys Val Ser Leu Gly
            260                 265                 270

Phe Thr Lys Val Arg Leu Leu Arg Leu Arg Asn Pro Trp Gly Cys Val
        275                 280                 285

Glu Trp Thr Gly Ala Trp Ser Asp Ser Cys Pro Arg Trp Asp Thr Leu
    290                 295                 300

Pro Thr Glu Cys Arg Asp Ala Leu Leu Val Lys Lys Glu Asp Gly Glu
305                 310                 315                 320

Phe Trp Met Glu Leu Arg Asp Phe Leu Leu His Phe Asp Thr Val Gln
                325                 330                 335

Ile Cys Ser Leu Ser Pro Glu Val Leu Gly Pro Ser Pro Glu Gly Gly
            340                 345                 350

Gly Trp His Val His Thr Phe Gln Gly Arg Trp Val Arg Gly Phe Asn
        355                 360                 365

Ser Gly Gly Ser Gln Pro Asn Ala Glu Thr Phe Trp Thr Asn Pro Gln
    370                 375                 380

Phe Arg Leu Thr Leu Leu Glu Pro Asp Glu Glu Asp Asp Glu Asp Glu
385                 390                 395                 400

Glu Gly Pro Trp Gly Gly Trp Gly Ala Ala Gly Ala Arg Gly Pro Ala
                405                 410                 415

Arg Gly Gly Arg Thr Pro Lys Cys Thr Val Leu Leu Ser Leu Ile Gln
            420                 425                 430

Arg Asn Arg Arg Arg Leu Arg Ala Lys Gly Leu Thr Tyr Leu Thr Val
        435                 440                 445

Gly Phe His Val Phe Gln Val Glu Ile Asp Asp Val Ile Ser Ala Asp
    450                 455                 460

Leu Gln Ser Leu Gln Gly Pro Tyr Leu Pro Leu Glu Leu Gly Leu Glu
465                 470                 475                 480

Gln Leu Phe Gln Glu Leu Ala Gly Glu Glu Glu Glu Leu Asn Ala Ser
                485                 490                 495
```

```
Gln Leu Gln Ala Leu Leu Ser Ile Ala Leu Glu Pro Ala Arg Ala His
            500                 505                 510

Thr Ser Thr Pro Arg Glu Ile Gly Leu Arg Thr Cys Glu Gln Leu Leu
        515                 520                 525

Gln Cys Phe Gly Gly Gln Ser Leu Ala Leu His His Phe Gln Gln Leu
    530                 535                 540

Trp Gly Tyr Leu Leu Glu Trp Gln Ala Ile Phe Asn Lys Phe Asp Glu
545                 550                 555                 560

Asp Thr Ser Gly Thr Met Asn Ser Tyr Glu Leu Arg Leu Ala Leu Asn
                565                 570                 575

Ala Ala Gly Phe His Leu Asn Asn Gln Leu Thr Gln Thr Leu Thr Ser
            580                 585                 590

Arg Tyr Arg Asp Ser Arg Leu Arg Val Asp Phe Glu Arg Phe Val Ser
        595                 600                 605

Cys Val Ala His Leu Thr Cys Ile Phe His Cys Ser Gln His Leu Asp
    610                 615                 620

Gly Gly Glu Gly Val Ile Cys Leu Thr His Arg Gln Val Ser Gln Val
625                 630                 635                 640

Trp Met Glu Val Ala Thr Phe Ser
                645
```

<210> 3
<211> 1796
<212> DNA
<213> Homo sapiens

<400> 3
atcggggccc tgtgcccctt gctgctgcag ccgggcacca tgtcgacctc gtccttgagg 60
cgccagatga agaacatcgt ccacaactac tcagaggcgg agatcaaggt tcgagaggcc 120
acgagcaatg acccctgggg cccatccagc tccctcatgt cagagattgc cgacctcacc 180
tacaacgttg tcgccttctc ggagatcatg agcatgatct ggaagcggct caatgaccat 240
ggcaagaact ggcgtcacgt ttacaaggcc atgacgctga tggagtacct catcaagacc 300
ggctcggagc gcgtgtcgca gcagtgcaag gagaacatgt acgccgtgca gacgctgaag 360
gacttccagt acgtggaccg cgacggcaag gaccagggcg tgaacgtgcg tgagaaagct 420
aagcagctgg tggccctgct gcgcgacgag gaccggctgc gggaagagcg ggcgcacgcg 480
ctcaagacca aggaaaagct ggcacagacc gccacggcct catcagcagc tgtgggctca 540
ggcccccctc ccgaggcgga gcaggcgtgg ccgcagagca gcggggagga ggagctgcag 600
ctccagctgg ccctggccat gagcaaggag gaggccgacc agcccccgtc ctgcggcccc 660
gaggacgacg cccagctcca gctggccctt agtttgagcc gagaagagca tgataaggag 720
gagcggatcc gtcgcgggga tgacctgcgg ctgcagatgg caatcgagga gagcaagagg 780
gagactgggg gcaaggagga gtcgtccctc atggaccttg ctgacgtctt cacggcccca 840
gctcctgccc cgaccacaga cccctggggg ggcccagcac ccatggctgc tgccgtcccc 900
acggctgccc ccacctcgga cccctggggc ggcccccctg tccctccagc tgctgatccc 960
tggggaggtc cagcccccac gccggcctct ggggacccct ggaggcctgc tgcccctgca 1020
ggaccctcag ttgacccttg gggtgggacc ccagcccctg cagctgggga ggggcccacg 1080
cctgatccat ggggaagttc cgatggtggt ggggtcccgg tcagtgggcc ctcagcctcc 1140
gatccctgga caccggcccc ggccttctca gatccctggg gagggtcacc tgccaagccc 1200

agcaccaatg gcacagcagc cgggggattc gacacggagc ccgacgagtt ctctgacttt 1260
gaccgactcc gcacggcact gccgcccctc tcccggatcc ttccaggaga gctggagctg 1320
ctggcaggag aggtgccggc ccgaagccct ggggcgtttg acatgagtgg ggtcagggga 1380
tctctggctg aggctgtggg cagcccccca cctgcagcca caccaactcc cacgcccccc 1440
acccggaaga cgccggagtc attcctgggg cccaatgcag ccctcgtcga cctggactcg 1500
ctggtgagcc ggccgggccc cacgccgcct ggagccaagg cctccaaccc cttcctgcca 1560
gcaggaggcc cagccactgg cccttccgtc accaacccct tccagcccgc gcctcccgcg 1620
acgctcaccc tgaaccagct ccgtctcagt cctgtgcctc ccgtccctgg agcgccaccc 1680
acgtacatct ctcccccttgg cgggggccct ggcctgcccc ccatgatgcc cccgggcccc 1740
ccggccccca acactaatcc cttcctccta taatccaggg cggaaggggg cctggc 1796

<210> 4
<211> 577
<212> PRT
<213> Homo sapiens

<400> 4
Met Ser Thr Ser Ser Leu Arg Arg Gln Met Lys Asn Ile Val His Asn
1 5 10 15

Tyr Ser Glu Ala Glu Ile Lys Val Arg Glu Ala Thr Ser Asn Asp Pro
20 25 30

Trp Gly Pro Ser Ser Ser Leu Met Ser Glu Ile Ala Asp Leu Thr Tyr
35 40 45

Asn Val Val Ala Phe Ser Glu Ile Met Ser Met Ile Trp Lys Arg Leu
50 55 60

Asn Asp His Gly Lys Asn Trp Arg His Val Tyr Lys Ala Met Thr Leu
65 70 75 80

Met Glu Tyr Leu Ile Lys Thr Gly Ser Glu Arg Val Ser Gln Gln Cys
85 90 95

Lys Glu Asn Met Tyr Ala Val Gln Thr Leu Lys Asp Phe Gln Tyr Val
100 105 110

Asp Arg Asp Gly Lys Asp Gln Gly Val Asn Val Arg Glu Lys Ala Lys
115 120 125

Gln Leu Val Ala Leu Leu Arg Asp Glu Asp Arg Leu Arg Glu Glu Arg
130 135 140

Ala His Ala Leu Lys Thr Lys Glu Lys Leu Ala Gln Thr Ala Thr Ala
145 150 155 160

Ser Ser Ala Ala Val Gly Ser Gly Pro Pro Pro Glu Ala Glu Gln Ala
165 170 175

Trp Pro Gln Ser Ser Gly Glu Glu Glu Leu Gln Leu Gln Leu Ala Leu
180 185 190

Ala Met Ser Lys Glu Glu Ala Asp Gln Pro Pro Ser Cys Gly Pro Glu
195 200 205

```
Asp Asp Ala Gln Leu Gln Leu Ala Leu Ser Leu Ser Arg Glu Glu His
    210                 215                 220

Asp Lys Glu Glu Arg Ile Arg Arg Gly Asp Asp Leu Arg Leu Gln Met
225                 230                 235                 240

Ala Ile Glu Glu Ser Lys Arg Glu Thr Gly Gly Lys Glu Glu Ser Ser
            245                 250                 255

Leu Met Asp Leu Ala Asp Val Phe Thr Ala Pro Ala Pro Ala Pro Thr
        260                 265                 270

Thr Asp Pro Trp Gly Gly Pro Ala Pro Met Ala Ala Ala Val Pro Thr
    275                 280                 285

Ala Ala Pro Thr Ser Asp Pro Trp Gly Gly Pro Pro Val Pro Pro Ala
290                 295                 300

Ala Asp Pro Trp Gly Gly Pro Ala Pro Thr Pro Ala Ser Gly Asp Pro
305                 310                 315                 320

Trp Arg Pro Ala Ala Pro Ala Gly Pro Ser Val Asp Pro Trp Gly Gly
                325                 330                 335

Thr Pro Ala Pro Ala Ala Gly Glu Gly Pro Thr Pro Asp Pro Trp Gly
        340                 345                 350

Ser Ser Asp Gly Gly Gly Val Pro Val Ser Gly Pro Ser Ala Ser Asp
    355                 360                 365

Pro Trp Thr Pro Ala Pro Ala Phe Ser Asp Pro Trp Gly Gly Ser Pro
370                 375                 380

Ala Lys Pro Ser Thr Asn Gly Thr Ala Ala Gly Gly Phe Asp Thr Glu
385                 390                 395                 400

Pro Asp Glu Phe Ser Asp Phe Asp Arg Leu Arg Thr Ala Leu Pro Pro
                405                 410                 415

Leu Ser Arg Ile Leu Pro Gly Glu Leu Glu Leu Leu Ala Gly Glu Val
            420                 425                 430

Pro Ala Arg Ser Pro Gly Ala Phe Asp Met Ser Gly Val Arg Gly Ser
        435                 440                 445

Leu Ala Glu Ala Val Gly Ser Pro Pro Pro Ala Ala Thr Pro Thr Pro
    450                 455                 460

Thr Pro Pro Thr Arg Lys Thr Pro Glu Ser Phe Leu Gly Pro Asn Ala
465                 470                 475                 480

Ala Leu Val Asp Leu Asp Ser Leu Val Ser Arg Pro Gly Pro Thr Pro
                485                 490                 495

Pro Gly Ala Lys Ala Ser Asn Pro Phe Leu Pro Ala Gly Gly Pro Ala
            500                 505                 510
```

```
Thr Gly Pro Ser Val Thr Asn Pro Phe Gln Pro Ala Pro Pro Ala Thr
        515                 520                 525

Leu Thr Leu Asn Gln Leu Arg Leu Ser Pro Val Pro Pro Val Pro Gly
    530                 535                 540

Ala Pro Pro Thr Tyr Ile Ser Pro Leu Gly Gly Gly Pro Gly Leu Pro
545                 550                 555                 560

Pro Met Met Pro Pro Gly Pro Pro Ala Pro Asn Thr Asn Pro Phe Leu
                565                 570                 575

Leu
```

<210> 5
<211> 2973
<212> DNA
<213> Homo sapiens

<400> 5

```
atggccaccg cggcaacctc acccgcgctg aagcggctgg atctgcgcga ccctgcggct 60
cttttcgaga cgcatggagc ggaggagatc cgcgggctgg agcgccaggt tcgggccgag 120
atcgagcaca agaaggagga gctgcggcag atggtgggcg aacggtaccg cgacctgatc 180
gaggcggccg acaccatcgg ccagatgcgc cgctgcgccg tggggctagt ggacgccgtg 240
aaggccaccg accagtactg cgcccgcctc cgccaggccg gctcggccgc gccccggcca 300
ccgcgggccc agcaggtcag tccccgtgcc cccaccctgc gacccgcagg cgggtcccgg 360
agcccctggc cttgcaggtc aaccccgccc ccctctgtca gtcccagacc ccgcgagtcc 420
tcaccttcct tagccaggag cctatccgcc cctcaccctt tgggcctcta cctgctctgc 480
tgccacctcc acagcctgct ccagctggat tcttctagtt cccgatacag tcccgtcctc 540
tcccggtttc ctatactcat ccggcaggtg gcagccgcca gccacttccg gtcaactatt 600
ctgcatgaaa gcaagatgtt gctcaaatgc caaggtgtgt ctgaccaagc tgtggccgag 660
gccctgtgct ctataatgct cttagaagag agttctcctc gccaagccct cacagacttc 720
ctgctggcca gaaaggcaac tattcagaaa cttctcaacc agccacacca tggtgctggt 780
atcaaggctc agatttgctc attagtggag ttgctggcca ccactctgaa gcaagctcat 840
gccctttttct acactttgcc agaaggactg ctgccagatc cagccctgcc atgtggcttg 900
ctcttctcta ctctggagac catcacaggc cagcatctgc cgaagggcac tggtgtcctg 960
caggaagaga tgaaactctg cagctggttt aaacacctgc cagcatccat cgtcgagttc 1020
cagccaacac tccgaaccct tgcacatccc atcagtcagg aatacctgaa agacacgctg 1080
cagaaatgga tccacatgtg taatgaagac attaaaaatg ggatcaccaa cctgctcatg 1140
tacgtgaaga gcatgaaggg tctcgcggga atccgggacg ccatgtggga gttacttacc 1200
aatgagtcca ccaatcacag ctgggatgtg ctatgtcggc ggcttctgga gaagccgctc 1260
ttgttctggg aagatatgat gcagcaactg ttccttgacc gattacagac tctgacaaaa 1320
gaaggctttg actccatctc cagtagctcc aaggagctct tggtttcagc tttgcaggaa 1380
cttgaaagca gcaccagcaa ctccccttca aataagcaca tccactttga gtacaacatg 1440
tcgctcttcc tctggtctga gagtcctaat gacctgcctt ccgatgcggc ctgggtcagc 1500
gtggcaaacc ggggtcagtt aggggtcgct ggcctctcta tgaaagcaca agccatcagc 1560
ccttgtgtac agaacttctg ttctgccctg gattctaagc tgaaggttaa actagatgac 1620
ctcctggctt acctcccctc tgatgactca tcactgccca aggacgtttc tcccacacag 1680
gccaagagtt ctgcctttga cagatacgca gatgcgggga ccgtgcagga gatgctgcgg 1740
actcagtccg tggcatgcat caagcacatc gtggactgca tccgggcaga gctacagagc 1800
attgaagaag gtgtgcaagg gcaacaggat gccctcaaca gtgccaagct gcactcagtt 1860
cttttcatgg ccagactctg cctgtccctg ggagagctgt gcccccatct gaagcagtgc 1920
atcctgggaa aatcagagag ctcagagaaa ccagcaaggg agtttagggc tctgagaaaa 1980
cagggaaagg tgaaaactca ggaaatcatt cctacacagg ccaagtggca agaggttaaa 2040
gaagtactcc tccagcagag cgtgatgggc taccaggtct ggagcagtgc agttgtgaaa 2100
```

gttttgattc atggattcac ccagtcatta cttctagatg atgctggctc agttctggcc 2160
acagccacca gctgggatga gctagaaatt caggaggagg cagagtctgg cagcagtgtc 2220
acatccaaga tccgactccc tgcacagccg tcctggtatg tacagtcctt cctgtttagt 2280
ttatgccagg aaattaatcg ggttggaggc catgccttgc caaaggtgac attacaggag 2340
atgctgaaaa gctgtatggt tcaagtagta gctgcctatg agaaactctc cgaagaaaaa 2400
cagattaaga aagaaggtgc atttccagtc acccagaacc gggcgctgca gctgctttat 2460
gatctgcgtt acctcaacat tgttctgaca gccaagggtg acgaggtgaa gagtggccgg 2520
agcaagccag actccaggat tgagaaagtg actgaccacc tggaagccct cattgatcca 2580
tttgacctgg acgttttcac gccacacctc aacagcaacc ttcatcgcct ggtgcagcga 2640
acttctgtgc tgtttggatt ggtgactggt acagagaatc agctcgcccc ccggagcagt 2700
acgttcaact cccaagaacc ccataacatc ctgccactgg catccagtca gatcaggagg 2760
tttggacttc tcccactgag catgacaagc actcgaaagg ctaaatcaac cagaaacatc 2820
gaaacaaaag ctcaggttgg tcccccggca cgctccacag ctggtgaccc gacagttcct 2880
ggctccttgt tcagacagct tgtcagtgaa gaagacaaca cgtctgcacc ttcattattc 2940
aaacttggct ggctctctag tatgactaag taa 2973

<210> 6
<211> 990
<212> PRT
<213> Homo sapiens

<400> 6
Met Ala Thr Ala Ala Thr Ser Pro Ala Leu Lys Arg Leu Asp Leu Arg
1 5 10 15

Asp Pro Ala Ala Leu Phe Glu Thr His Gly Ala Glu Glu Ile Arg Gly
20 25 30

Leu Glu Arg Gln Val Arg Ala Glu Ile Glu His Lys Lys Glu Glu Leu
35 40 45

Arg Gln Met Val Gly Glu Arg Tyr Arg Asp Leu Ile Glu Ala Ala Asp
50 55 60

Thr Ile Gly Gln Met Arg Arg Cys Ala Val Gly Leu Val Asp Ala Val
65 70 75 80

Lys Ala Thr Asp Gln Tyr Cys Ala Arg Leu Arg Gln Ala Gly Ser Ala
85 90 95

Ala Pro Arg Pro Pro Arg Ala Gln Gln Val Ser Pro Arg Ala Pro Thr
100 105 110

Leu Arg Pro Ala Gly Gly Ser Arg Ser Pro Trp Pro Cys Arg Ser Thr
115 120 125

Pro Pro Pro Ser Val Ser Pro Arg Pro Arg Glu Ser Ser Pro Ser Leu
130 135 140

Ala Arg Ser Leu Ser Ala Pro His Pro Leu Gly Leu Tyr Leu Leu Cys
145 150 155 160

Cys His Leu His Ser Leu Leu Gln Leu Asp Ser Ser Ser Ser Arg Tyr
165 170 175

Ser Pro Val Leu Ser Arg Phe Pro Ile Leu Ile Arg Gln Val Ala Ala

```
            180                 185                 190

Ala Ser His Phe Arg Ser Thr Ile Leu His Glu Ser Lys Met Leu Leu
        195                 200                 205

Lys Cys Gln Gly Val Ser Asp Gln Ala Val Ala Glu Ala Leu Cys Ser
    210                 215                 220

Ile Met Leu Leu Glu Glu Ser Ser Pro Arg Gln Ala Leu Thr Asp Phe
225                 230                 235                 240

Leu Leu Ala Arg Lys Ala Thr Ile Gln Lys Leu Leu Asn Gln Pro His
                245                 250                 255

His Gly Ala Gly Ile Lys Ala Gln Ile Cys Ser Leu Val Glu Leu Leu
            260                 265                 270

Ala Thr Thr Leu Lys Gln Ala His Ala Leu Phe Tyr Thr Leu Pro Glu
        275                 280                 285

Gly Leu Leu Pro Asp Pro Ala Leu Pro Cys Gly Leu Leu Phe Ser Thr
    290                 295                 300

Leu Glu Thr Ile Thr Gly Gln His Leu Pro Lys Gly Thr Gly Val Leu
305                 310                 315                 320

Gln Glu Glu Met Lys Leu Cys Ser Trp Phe Lys His Leu Pro Ala Ser
                325                 330                 335

Ile Val Glu Phe Gln Pro Thr Leu Arg Thr Leu Ala His Pro Ile Ser
            340                 345                 350

Gln Glu Tyr Leu Lys Asp Thr Leu Gln Lys Trp Ile His Met Cys Asn
        355                 360                 365

Glu Asp Ile Lys Asn Gly Ile Thr Asn Leu Leu Met Tyr Val Lys Ser
    370                 375                 380

Met Lys Gly Leu Ala Gly Ile Arg Asp Ala Met Trp Glu Leu Leu Thr
385                 390                 395                 400

Asn Glu Ser Thr Asn His Ser Trp Asp Val Leu Cys Arg Arg Leu Leu
                405                 410                 415

Glu Lys Pro Leu Leu Phe Trp Glu Asp Met Met Gln Gln Leu Phe Leu
            420                 425                 430

Asp Arg Leu Gln Thr Leu Thr Lys Glu Gly Phe Asp Ser Ile Ser Ser
        435                 440                 445

Ser Ser Lys Glu Leu Leu Val Ser Ala Leu Gln Glu Leu Glu Ser Ser
    450                 455                 460

Thr Ser Asn Ser Pro Ser Asn Lys His Ile His Phe Glu Tyr Asn Met
465                 470                 475                 480

Ser Leu Phe Leu Trp Ser Glu Ser Pro Asn Asp Leu Pro Ser Asp Ala
```

485 490 495

Ala Trp Val Ser Val Ala Asn Arg Gly Gln Leu Gly Val Ala Gly Leu
500 505 510

Ser Met Lys Ala Gln Ala Ile Ser Pro Cys Val Gln Asn Phe Cys Ser
515 520 525

Ala Leu Asp Ser Lys Leu Lys Val Lys Leu Asp Asp Leu Leu Ala Tyr
530 535 540

Leu Pro Ser Asp Asp Ser Ser Leu Pro Lys Asp Val Ser Pro Thr Gln
545 550 555 560

Ala Lys Ser Ser Ala Phe Asp Arg Tyr Ala Asp Ala Gly Thr Val Gln
565 570 575

Glu Met Leu Arg Thr Gln Ser Val Ala Cys Ile Lys His Ile Val Asp
580 585 590

Cys Ile Arg Ala Glu Leu Gln Ser Ile Glu Glu Gly Val Gln Gly Gln
595 600 605

Gln Asp Ala Leu Asn Ser Ala Lys Leu His Ser Val Leu Phe Met Ala
610 615 620

Arg Leu Cys Leu Ser Leu Gly Glu Leu Cys Pro His Leu Lys Gln Cys
625 630 635 640

Ile Leu Gly Lys Ser Glu Ser Ser Glu Lys Pro Ala Arg Glu Phe Arg
645 650 655

Ala Leu Arg Lys Gln Gly Lys Val Lys Thr Gln Glu Ile Ile Pro Thr
660 665 670

Gln Ala Lys Trp Gln Glu Val Lys Glu Val Leu Leu Gln Gln Ser Val
675 680 685

Met Gly Tyr Gln Val Trp Ser Ser Ala Val Val Lys Val Leu Ile His
690 695 700

Gly Phe Thr Gln Ser Leu Leu Leu Asp Asp Ala Gly Ser Val Leu Ala
705 710 715 720

Thr Ala Thr Ser Trp Asp Glu Leu Glu Ile Gln Glu Glu Ala Glu Ser
725 730 735

Gly Ser Ser Val Thr Ser Lys Ile Arg Leu Pro Ala Gln Pro Ser Trp
740 745 750

Tyr Val Gln Ser Phe Leu Phe Ser Leu Cys Gln Glu Ile Asn Arg Val
755 760 765

Gly Gly His Ala Leu Pro Lys Val Thr Leu Gln Glu Met Leu Lys Ser
770 775 780

Cys Met Val Gln Val Val Ala Ala Tyr Glu Lys Leu Ser Glu Glu Lys

785 790 795 800

Gln Ile Lys Lys Glu Gly Ala Phe Pro Val Thr Gln Asn Arg Ala Leu
805 810 815

Gln Leu Leu Tyr Asp Leu Arg Tyr Leu Asn Ile Val Leu Thr Ala Lys
820 825 830

Gly Asp Glu Val Lys Ser Gly Arg Ser Lys Pro Asp Ser Arg Ile Glu
835 840 845

Lys Val Thr Asp His Leu Glu Ala Leu Ile Asp Pro Phe Asp Leu Asp
850 855 860

Val Phe Thr Pro His Leu Asn Ser Asn Leu His Arg Leu Val Gln Arg
865 870 875 880

Thr Ser Val Leu Phe Gly Leu Val Thr Gly Thr Glu Asn Gln Leu Ala
885 890 895

Pro Arg Ser Ser Thr Phe Asn Ser Gln Glu Pro His Asn Ile Leu Pro
900 905 910

Leu Ala Ser Ser Gln Ile Arg Arg Phe Gly Leu Leu Pro Leu Ser Met
915 920 925

Thr Ser Thr Arg Lys Ala Lys Ser Thr Arg Asn Ile Glu Thr Lys Ala
930 935 940

Gln Val Gly Pro Pro Ala Arg Ser Thr Ala Gly Asp Pro Thr Val Pro
945 950 955 960

Gly Ser Leu Phe Arg Gln Leu Val Ser Glu Glu Asp Asn Thr Ser Ala
965 970 975

Pro Ser Leu Phe Lys Leu Gly Trp Leu Ser Ser Met Thr Lys
980 985 990

<210> 7
<211> 1851
<212> DNA
<213> Homo sapiens

<400> 7
ctagaattca gcggccgctg aattctagca ggcacgctgg gcgcatgtcc gcctcgccgg 60
ggctgccaga atcttggaat cccaatccgt gaggttcctg ggtgtgctgg catcaggaca 120
gcggtccacg aacggtgtgt tacccaaata ttgacatcct gcagctagcc tcaaacaatc 180
acagctactt tccaatttca gagaaaaaaa ggctaaaatt ggtaatcctg atgaaaatca 240
acaaaataca catgaagaga cagcactgag agcgagttac tgctcatttg attcatattg 300
ccaaactgaa ctctcttgtt ttcttgcaag atgaaaggag acaaccatga atgagccact 360
agactattta gcaaatgctt ctgatttccc cgattatgca gctgcttttg gaaattgcac 420
tgatgaaaac atcccactca agatgcacta cctccctgtt atttatggca ttatcttcct 480
cgtgggattt ccaggcaatg cagtagtgat atccacttac attttcaaaa tgagaccttg 540
gaagagcagc accatcatta tgctgaacct ggcctgcaca gatctgctgt atctgaccag 600
cctccccttc ctgattcact actatgccag tggcgaaaac tggatctttg gagatttcat 660
gtgtaagttt atccgcttca gcttccattt caacctgtat agcagcatcc tcttcctcac 720

```
ctgtttcagc atcttccgct actgtgtgat cattcaccca atgagctgct tttccattca 780
caaaactcga tgtgcagttg tagcctgtgc tgtggtgtgg atcatttcac tggtagctgt 840
cattccgatg accttcttga tcacatcaac caacaggacc aacagatcag cctgtctcga 900
cctcaccagt tcggatgaac tcaatactat taagtggtac aacctaattt tgactgcaac 960
tactttctgc ctccccttgg tgatagtgac actttgctat accacgatta tccacactct 1020
gacccatgga ctgcaaactg acagctgcct taagcagaaa gcacgaaggc taaccattct 1080
gctactcctt gcattttacg tatgtttttt acccttccat atcttgaggg tcattcggat 1140
cgaatctcgc ctgctttcaa tcagttgttc cattgagaat cagatccatg aagcttacat 1200
cgtttctaga ccattagctg ctctgaacac ctttggtaac ctgttactat atgtggtggt 1260
cagcgacaac tttcagcagg ctgtctgctc aacagtgaga tgcaaagtaa gcgggaacct 1320
tgagcaagca aagaaaatta gttactcaaa caacccttga aatatttcat ttacttaacc 1380
aaaaacaaat acttgctgat actttaccta gcatcctaag atgttcagga tgtctccctc 1440
aatggaactc ctggtaaata ctgtgtattc aagtaatcat gtgccaaagc cagggcagag 1500
cttctagttc tttgcaatcc ctttattgag ctcctccact ggggagatat aagaatggga 1560
tgcatgtata tcagcaaagt attcagacat agtattacaa gctattggaa ctcagaggca 1620
tcttagagaa catctgttcc caccaactta ctatatatac acggaaacca atttcttacc 1680
cttgccctag attgctcagt aaatttgtgc caagatagga gaaaaccaat cttttcactc 1740
atcatttcat gcttctctgc actctgggcc tatttgtatt gaaccattag acaattcaaa 1800
ccactacttg tatctttctt aatatttatt ttttacatct cagagctcta c          1851
```

<210> 8
<211> 337
<212> PRT
<213> Homo sapiens

<400> 8

```
Met Asn Glu Pro Leu Asp Tyr Leu Ala Asn Ala Ser Asp Phe Pro Asp
  1               5                  10                  15

Tyr Ala Ala Ala Phe Gly Asn Cys Thr Asp Glu Asn Ile Pro Leu Lys
             20                  25                  30

Met His Tyr Leu Pro Val Ile Tyr Gly Ile Ile Phe Leu Val Gly Phe
         35                  40                  45

Pro Gly Asn Ala Val Val Ile Ser Thr Tyr Ile Phe Lys Met Arg Pro
     50                  55                  60

Trp Lys Ser Ser Thr Ile Ile Met Leu Asn Leu Ala Cys Thr Asp Leu
 65                  70                  75                  80

Leu Tyr Leu Thr Ser Leu Pro Phe Leu Ile His Tyr Tyr Ala Ser Gly
                 85                  90                  95

Glu Asn Trp Ile Phe Gly Asp Phe Met Cys Lys Phe Ile Arg Phe Ser
            100                 105                 110

Phe His Phe Asn Leu Tyr Ser Ser Ile Leu Phe Leu Thr Cys Phe Ser
        115                 120                 125

Ile Phe Arg Tyr Cys Val Ile Ile His Pro Met Ser Cys Phe Ser Ile
    130                 135                 140

His Lys Thr Arg Cys Ala Val Val Ala Cys Ala Val Val Trp Ile Ile
145                 150                 155                 160
```

```
Ser Leu Val Ala Val Ile Pro Met Thr Phe Leu Ile Thr Ser Thr Asn
                165                 170                 175

Arg Thr Asn Arg Ser Ala Cys Leu Asp Leu Thr Ser Ser Asp Glu Leu
            180                 185                 190

Asn Thr Ile Lys Trp Tyr Asn Leu Ile Leu Thr Ala Thr Thr Phe Cys
        195                 200                 205

Leu Pro Leu Val Ile Val Thr Leu Cys Tyr Thr Thr Ile Ile His Thr
    210                 215                 220

Leu Thr His Gly Leu Gln Thr Asp Ser Cys Leu Lys Gln Lys Ala Arg
225                 230                 235                 240

Arg Leu Thr Ile Leu Leu Leu Leu Ala Phe Tyr Val Cys Phe Leu Pro
                245                 250                 255

Phe His Ile Leu Arg Val Ile Arg Ile Glu Ser Arg Leu Leu Ser Ile
            260                 265                 270

Ser Cys Ser Ile Glu Asn Gln Ile His Glu Ala Tyr Ile Val Ser Arg
        275                 280                 285

Pro Leu Ala Ala Leu Asn Thr Phe Gly Asn Leu Leu Leu Tyr Val Val
    290                 295                 300

Val Ser Asp Asn Phe Gln Gln Ala Val Cys Ser Thr Val Arg Cys Lys
305                 310                 315                 320

Val Ser Gly Asn Leu Glu Gln Ala Lys Lys Ile Ser Tyr Ser Asn Asn
                325                 330                 335

Pro
```

<210> 9
<211> 3146
<212> DNA
<213> Homo sapiens

<400> 9

```
atggggtcga ccgactccaa gctgaacttc cggaaggcgg tgatccagct caccaccaag 60
acgcagcccg tggaagccac cgatgatgcc ttttgggacc agttctgggc agacacagcc 120
acctcggtgc aggatgtgtt tgcactggtg ccggcagcag agatccgggc cgtgcgggaa 180
gagtcaccct ccaacttggc caccctgtgc tacaaggccg ttgagaagct ggtgcaggga 240
gctgagagtg gctgccactc ggagaaggag aagcagatcg tcctgaactg cagccggctg 300
ctcacccgcg tgctgcccta catctttgag gaccccgact ggaggggctt cttctggtcc 360
acagtgcccc agcagggaga agaggatgat gagcatgcca ggcccctggc cgagtccctg 420
ctcctggcca ttgctgacct gctcttctgc ccggacttca cggttcagag ccaccggagg 480
agcactgtgg actcggcaga ggacgtccac tccctggaca gctgtgaata catctgggag 540
gctggtgtgg gcttcgctca ctccccccag cctaactaca tccacgatat gaaccggatg 600
gagctgctga aactgctgct gacatgcttc tccgaggcca tgtacctgcc cccagctccg 660
gaaagtggca gcaccaaccc atgggttcag ttcttttgtt ccacggagaa cagacatgcc 720
ctgcccctct tcacctccct cctcaacacc gtgtgtgcct atgaccctgt gggctacggg 780
atcccctaca accacctgct cttctctgac taccgggaac ccctggtgga ggaggctgcc 840
```

caggtgctca ttgtcacttt ggaccacgac agtgccagca gtgccagccc cactgtggac 900
ggcaccacca ctggcaccgc catggatgat gccgatgact tccagttcat cctcaagggt 960
atagcccggc tgctgtccaa ccccctgctc cagacctacc tgcctaactc caccaagaag 1020
atccagttcc accaggagct gctagttctc ttctggaagc tctgcgactt caacaagaaa 1080
ttcctcttct tcgtgctgaa gagcagcgac gtcctagaca tccttgtccc catcctcttc 1140
ttcctcaacg atgcccgggc cgatcagtct cgggtgggcc tgatgcacat tggtgtcttc 1200
atcttgctgc ttctgagcgg ggagcggaac ttcggggtgc ggctgaacaa accctactca 1260
atccgcgtgc ccatggacat cccagtcttc acagggaccc acgccgacct gctcattgtg 1320
gtgttccaca agatcatcac cagcgggcac cagcggttgc agcccctctt cgactgcctg 1380
ctcaccatcg tggtcaacgt gtccccctac ctcaagagcc tgtccatggt gaccgccaac 1440
aagttgctgc acctgctgga ggccttctcc accacctggt tcctcttctc tgccgcccag 1500
aaccaccacc tggtcttctt cctcctggag gtcttcaaca acatcatcca gtaccagttt 1560
gatggcaact ccaacctggt ctacgccatc atccgcaagc gcagcatctt ccaccagctg 1620
gccaacctgc ccacggaccc gcccaccatt cacaaggccc tgcagcggcg ccggcggaca 1680
cctgagccct tgtctcgcac cggctcccag gagggcacct ccatggaggg ctcccgcccc 1740
gctgcccctg cagagccagg caccctcaag accagtctgg tggctactcc aggcattgac 1800
aagctgaccg agaagtccca ggtgtcagag gatggcacct tgcggtccct ggaacctgag 1860
ccccagcaga gcttggagga tggcagcccg gctaaggggg agcccagcca ggcatggagg 1920
gagcagcggc gaccgtccac ctcatcagcc agtgggcagt ggagcccaac gccagagtgg 1980
gtcctctcct ggaagtcgaa gctgccgctg cagaccatca tgaggctgct gcaggtgctg 2040
gttccgcagg tggagaagat ctgcatcgac aagggcctga cggatgagtc tgagatcctg 2100
cggttcctgc agcatggcac cctggtgggg ctgctgcccg tgccccaccc catcctcatc 2160
cgcaagtacc aggccaactc gggcactgcc atgtggttcc gcacctacat gtggggcgtc 2220
atctatctga ggaatgtgga ccccccctgtc tggtacgaca ccgacgtgaa gctgtttgag 2280
atacagcggg tgtgaggatg aagccgacga ggggctcagt ctaggggaag gcagggcctt 2340
ggtccctgag gcttccccca tccaccattc tgagctttaa attaccacga tcagggcctg 2400
gaacaggcag agtggccctg agtgtcatgc cctagagacc cctgtggcca ggacaatgtg 2460
aactggctca gatccccctc aacccctagg ctggactcac aggagcccca tctctggggc 2520
tatgccccca ccagagacca ctgcccccaa cactcggact ccctctttaa gacctggctc 2580
agtgctggcc cctcagtgcc cacccactcc tgtgctaccc agccccagag gcagaagcca 2640
aaatgggtca ctgtgcccta aggggtttga ccagggaacc acgggctgtc ccttgaggtg 2700
cctggacagg gtaaggggt gcttccagcc tcctaaccca aagccagctg ttccaggctc 2760
caggggaaaa aggtgtggcc aggctgctcc tcgaggaggc tgggagctgg ccgactgcaa 2820
aagccagact ggggcacctc ccgtatcctt ggggcatggt gtggggtggt gagggtctcc 2880
tgctatattc tcctggatcc atggaaatag cctggctccc tcttacccag taatgagggg 2940
cagggaaggg aactgggagg cagccgttta gtcctccctg ccctgcccac tgcctggatg 3000
gggcgatgcc acccctcatc cttcacccag ctctggcctc tgggtcccac cacccagccc 3060
cccgtgtcag aacaatcttt gctctgtaca atcggcctct ttacaataaa acctcctgct 3120
ccaaaaaaaa aaaaaaaaaa aaaaaa 3146

<210> 10
<211> 764
<212> PRT
<213> Homo sapiens

<400> 10
Met Gly Ser Thr Asp Ser Lys Leu Asn Phe Arg Lys Ala Val Ile Gln
1 5 10 15

Leu Thr Thr Lys Thr Gln Pro Val Glu Ala Thr Asp Asp Ala Phe Trp
20 25 30

Asp Gln Phe Trp Ala Asp Thr Ala Thr Ser Val Gln Asp Val Phe Ala
35 40 45

Leu Val Pro Ala Ala Glu Ile Arg Ala Val Arg Glu Glu Ser Pro Ser

```
     50                  55                  60

Asn Leu Ala Thr Leu Cys Tyr Lys Ala Val Glu Lys Leu Val Gln Gly
 65                  70                  75                  80

Ala Glu Ser Gly Cys His Ser Glu Lys Glu Lys Gln Ile Val Leu Asn
                85                  90                  95

Cys Ser Arg Leu Leu Thr Arg Val Leu Pro Tyr Ile Phe Glu Asp Pro
            100                 105                 110

Asp Trp Arg Gly Phe Phe Trp Ser Thr Val Pro Gln Gln Gly Glu Glu
        115                 120                 125

Asp Asp Glu His Ala Arg Pro Leu Ala Glu Ser Leu Leu Leu Ala Ile
    130                 135                 140

Ala Asp Leu Leu Phe Cys Pro Asp Phe Thr Val Gln Ser His Arg Arg
145                 150                 155                 160

Ser Thr Val Asp Ser Ala Glu Asp Val His Ser Leu Asp Ser Cys Glu
                165                 170                 175

Tyr Ile Trp Glu Ala Gly Val Gly Phe Ala His Ser Pro Gln Pro Asn
            180                 185                 190

Tyr Ile His Asp Met Asn Arg Met Glu Leu Leu Lys Leu Leu Leu Thr
        195                 200                 205

Cys Phe Ser Glu Ala Met Tyr Leu Pro Pro Ala Pro Glu Ser Gly Ser
    210                 215                 220

Thr Asn Pro Trp Val Gln Phe Phe Cys Ser Thr Glu Asn Arg His Ala
225                 230                 235                 240

Leu Pro Leu Phe Thr Ser Leu Leu Asn Thr Val Cys Ala Tyr Asp Pro
                245                 250                 255

Val Gly Tyr Gly Ile Pro Tyr Asn His Leu Leu Phe Ser Asp Tyr Arg
            260                 265                 270

Glu Pro Leu Val Glu Glu Ala Ala Gln Val Leu Ile Val Thr Leu Asp
        275                 280                 285

His Asp Ser Ala Ser Ser Ala Ser Pro Thr Val Asp Gly Thr Thr Thr
    290                 295                 300

Gly Thr Ala Met Asp Asp Ala Asp Asp Phe Gln Phe Ile Leu Lys Gly
305                 310                 315                 320

Ile Ala Arg Leu Leu Ser Asn Pro Leu Leu Gln Thr Tyr Leu Pro Asn
                325                 330                 335

Ser Thr Lys Lys Ile Gln Phe His Gln Glu Leu Leu Val Leu Phe Trp
            340                 345                 350

Lys Leu Cys Asp Phe Asn Lys Lys Phe Leu Phe Phe Val Leu Lys Ser
```

```
        355                 360                 365

Ser Asp Val Leu Asp Ile Leu Val Pro Ile Leu Phe Phe Leu Asn Asp
    370                 375                 380

Ala Arg Ala Asp Gln Ser Arg Val Gly Leu Met His Ile Gly Val Phe
385                 390                 395                 400

Ile Leu Leu Leu Leu Ser Gly Glu Arg Asn Phe Gly Val Arg Leu Asn
                405                 410                 415

Lys Pro Tyr Ser Ile Arg Val Pro Met Asp Ile Pro Val Phe Thr Gly
            420                 425                 430

Thr His Ala Asp Leu Leu Ile Val Val Phe His Lys Ile Ile Thr Ser
        435                 440                 445

Gly His Gln Arg Leu Gln Pro Leu Phe Asp Cys Leu Leu Thr Ile Val
    450                 455                 460

Val Asn Val Ser Pro Tyr Leu Lys Ser Leu Ser Met Val Thr Ala Asn
465                 470                 475                 480

Lys Leu Leu His Leu Leu Glu Ala Phe Ser Thr Thr Trp Phe Leu Phe
                485                 490                 495

Ser Ala Ala Gln Asn His His Leu Val Phe Phe Leu Leu Glu Val Phe
            500                 505                 510

Asn Asn Ile Ile Gln Tyr Gln Phe Asp Gly Asn Ser Asn Leu Val Tyr
        515                 520                 525

Ala Ile Ile Arg Lys Arg Ser Ile Phe His Gln Leu Ala Asn Leu Pro
    530                 535                 540

Thr Asp Pro Pro Thr Ile His Lys Ala Leu Gln Arg Arg Arg Arg Thr
545                 550                 555                 560

Pro Glu Pro Leu Ser Arg Thr Gly Ser Gln Glu Gly Thr Ser Met Glu
                565                 570                 575

Gly Ser Arg Pro Ala Ala Pro Ala Glu Pro Gly Thr Leu Lys Thr Ser
            580                 585                 590

Leu Val Ala Thr Pro Gly Ile Asp Lys Leu Thr Glu Lys Ser Gln Val
        595                 600                 605

Ser Glu Asp Gly Thr Leu Arg Ser Leu Glu Pro Glu Pro Gln Gln Ser
    610                 615                 620

Leu Glu Asp Gly Ser Pro Ala Lys Gly Glu Pro Ser Gln Ala Trp Arg
625                 630                 635                 640

Glu Gln Arg Arg Pro Ser Thr Ser Ser Ala Ser Gly Gln Trp Ser Pro
                645                 650                 655

Thr Pro Glu Trp Val Leu Ser Trp Lys Ser Lys Leu Pro Leu Gln Thr
```

660 665 670

Ile Met Arg Leu Leu Gln Val Leu Val Pro Gln Val Glu Lys Ile Cys
675 680 685

Ile Asp Lys Gly Leu Thr Asp Glu Ser Glu Ile Leu Arg Phe Leu Gln
690 695 700

His Gly Thr Leu Val Gly Leu Leu Pro Val Pro His Pro Ile Leu Ile
705 710 715 720

Arg Lys Tyr Gln Ala Asn Ser Gly Thr Ala Met Trp Phe Arg Thr Tyr
725 730 735

Met Trp Gly Val Ile Tyr Leu Arg Asn Val Asp Pro Pro Val Trp Tyr
740 745 750

Asp Thr Asp Val Lys Leu Phe Glu Ile Gln Arg Val
755 760

<210> 11
<211> 3314
<212> DNA
<213> Homo sapiens

<400> 11
gcgagagccg cgggggccgc ggagctggag ccggagctga agccggagcc gggttggagt 60
ctgggcgggg gccgggccgg agcgggctcc agagacatgg ggtcgaccga ctccaagctg 120
aacttccgga aggcggtgat ccagctcacc accaagacgc agcccgtgga agccaccgat 180
gatgcctttt gggaccagtt ctgggcagac acagccacct cggtgcagga tgtgtttgca 240
ctggtgccgg cagcagagat ccgggccgtg cgggaagagt caccctccaa cttggccacc 300
ctgtgctaca aggccgttga gaagctggtg cagggagctg agagtggctg ccactcggag 360
aaggagaagc agatcgtcct gaactgcagc cggctgctca cccgcgtgct gccctacatc 420
tttgaggacc ccgactggag gggcttcttc tggtccacag tgcccggggc agggcgagga 480
gggcagggag aagaggatga tgagcatgcc aggcccctgg ccgagtccct gctcctggcc 540
attgctgacc tgctcttctg cccggacttc acggttcaga gccaccggag gagcactgtg 600
gactcggcag aggacgtcca ctccctggac agctgtgaat acatctggga ggctggtgtg 660
ggcttcgctc actcccccca gcctaactac atccacgata tgaaccggat ggagctgctg 720
aaactgctgc tgacatgctt ctccgaggcc atgtacctgc ccccagctcc ggaaagtggc 780
agcaccaacc catgggttca gttcttttgt tccacggaga acagacatgc cctgcccctc 840
ttcacctccc tcctcaacac cgtgtgtgcc tatgaccctg tgggctacgg gatcccctac 900
aaccacctgc tcttctctga caccggggaa cccctggtgg aggaggctgc ccaggtgctc 960
attgtcactt tggaccacga cagtgccagc agtgccagcc ccactgtgga cggcaccacc 1020
actggcaccg ccatggatga tgccgatcct ccaggccctg agaacctgtt tgtgaactac 1080
ctgtcccgca tccatcgtga ggaggacttc cagttcatcc tcaagggtat agcccggctg 1140
ctgtccaacc ccctgctcca gacctacctg cctaactcca ccaagaagat ccagttccac 1200
caggagctgc tagttctctt ctggaagctc tgcgacttca acaagaaatt cctcttcttc 1260
gtgctgaaga gcagcgacgt cctagacatc cttgtcccca tcctcttctt cctcaacgat 1320
gcccgggccg atcagtctcg ggtgggcctg atgcacattg gtgtcttcat cttgctgctt 1380
ctgagcgggg agcggaactt cggggtgcgg ctgaacaaac cctactcaat ccgcgtgccc 1440
atggacatcc cagtcttcac agggacccac gccgacctgc tcattgtggt gttccacaag 1500
atcatcacca gcgggcacca gcggttgcag cccctcttcg actgcctgct caccatcgtg 1560
gtcaacgtgt ccccctacct caagagcctg tccatggtga ccgccaacaa gttgctgcac 1620
ctgctggagg ccttctccac cacctggttc ctcttctctg ccgcccagaa ccaccacctg 1680
gtcttcttcc tcctggaggt cttcaacaac atcatccagt accagtttga tggcaactcc 1740
aacctggtct acgccatcat ccgcaagcgc agcatcttcc accagctggc caacctgccc 1800

```
acggacccgc ccaccattca caaggccctg cagcggcgcc ggcggacacc tgagcccttg 1860
tctcgcaccg gctcccagga gggcacctcc atggagggct cccgccccgc tgcccctgca 1920
gagccaggca ccctcaagac cagtctggtg gctactccag gcattgacaa gctgaccgag 1980
aagtcccagg tgtcagagga tggcaccttg cggtccctgg aacctgagcc ccagcagagc 2040
ttggaggatg gcagcccggc taaggggggag cccagccagg catggaggga gcagcggcga 2100
ccatccacct catcagccag tgggcagtgg agcccaacgc cagagtgggt cctctcctgg 2160
aagtcgaagc tgccgctgca gaccatcatg aggctgctgc aggtgctggt tccgcaggtg 2220
gagaagatct gcatcgacaa gggcctgacg gatgagtctg agatcctgcg gttcctgcag 2280
catggcaccc tggtggggct gctgcccgtg ccccacccca tcctcatccg caagtaccag 2340
gccaactcgg gcactgccat gtggttccgc acctacatgt ggggcgtcat ctatctgagg 2400
aatgtggacc cccctgtctg gtacgacacc gacgtgaagc tgtttgagat acagcgggtg 2460
tgaggatgaa gccgacgagg ggctcagtct aggggaaggc agggccttgg tccctgaggc 2520
ttcccccatc caccattctg agctttaaat taccacgatc agggcctgga acaggcagag 2580
tggccctgag tgtcatgccc tagagacccc tgtggccagg acaatgtgaa ctggctcaga 2640
tccccctcaa cccctaggct ggactcacag gagccccatc tctggggcta tgcccccacc 2700
agagaccact gcccccaaca ctcggactcc ctctttaaga cctggctcag tgctggcccc 2760
tcagtgccca cccactcctg tgctacccag ccccagaggc agaagccaaa atgggtcact 2820
gtgccctaag gggtttgacc agggaaccac gggctgtccc ttgaggtgcc tggacagggt 2880
aaggggtgc ttccagcctc ctaacccaaa gccagctgtt ccaggctcca ggggaaaaag 2940
gtgtggccag gctgctcctc gaggaggctg ggagctggcc gactgcaaaa gccagactgg 3000
ggcacctccc gtatccttgg ggcatggtgt ggggtggtga gggtctcctg ctatattctc 3060
ctggatccat ggaaatagcc tggctccctc ttacccagta atgaggggca gggaagggaa 3120
ctgggaggca gccgtttagt cctccctgcc ctgcccactg cctggatggg gcgatgccac 3180
ccctcatcct tcacccagct ctggcctctg ggtcccacca cccagccccc cgtgtcagaa 3240
caatctttgc tctgtacaat cggcctcttt acaataaaac ctcctgctcc aaaaaaaaaa 3300
aaaaaaaaaa aaaa                                                   3314
```

<210> 12
<211> 788
<212> PRT
<213> Homo sapiens

<400> 12

```
Met Gly Ser Thr Asp Ser Lys Leu Asn Phe Arg Lys Ala Val Ile Gln
  1               5                  10                  15

Leu Thr Thr Lys Thr Gln Pro Val Glu Ala Thr Asp Asp Ala Phe Trp
             20                  25                  30

Asp Gln Phe Trp Ala Asp Thr Ala Thr Ser Val Gln Asp Val Phe Ala
         35                  40                  45

Leu Val Pro Ala Ala Glu Ile Arg Ala Val Arg Glu Glu Ser Pro Ser
     50                  55                  60

Asn Leu Ala Thr Leu Cys Tyr Lys Ala Val Glu Lys Leu Val Gln Gly
 65                  70                  75                  80

Ala Glu Ser Gly Cys His Ser Glu Lys Glu Lys Gln Ile Val Leu Asn
                 85                  90                  95

Cys Ser Arg Leu Leu Thr Arg Val Leu Pro Tyr Ile Phe Glu Asp Pro
            100                 105                 110

Asp Trp Arg Gly Phe Phe Trp Ser Thr Val Pro Gly Ala Gly Arg Gly
        115                 120                 125
```

```
Gly Gln Gly Glu Glu Asp Asp Glu His Ala Arg Pro Leu Ala Glu Ser
    130                 135                 140

Leu Leu Leu Ala Ile Ala Asp Leu Leu Phe Cys Pro Asp Phe Thr Val
145                 150                 155                 160

Gln Ser His Arg Arg Ser Thr Val Asp Ser Ala Glu Asp Val His Ser
                165                 170                 175

Leu Asp Ser Cys Glu Tyr Ile Trp Glu Ala Gly Val Gly Phe Ala His
            180                 185                 190

Ser Pro Gln Pro Asn Tyr Ile His Asp Met Asn Arg Met Glu Leu Leu
        195                 200                 205

Lys Leu Leu Leu Thr Cys Phe Ser Glu Ala Met Tyr Leu Pro Pro Ala
    210                 215                 220

Pro Glu Ser Gly Ser Thr Asn Pro Trp Val Gln Phe Phe Cys Ser Thr
225                 230                 235                 240

Glu Asn Arg His Ala Leu Pro Leu Phe Thr Ser Leu Leu Asn Thr Val
                245                 250                 255

Cys Ala Tyr Asp Pro Val Gly Tyr Gly Ile Pro Tyr Asn His Leu Leu
            260                 265                 270

Phe Ser Asp Thr Gly Glu Pro Leu Val Glu Glu Ala Ala Gln Val Leu
        275                 280                 285

Ile Val Thr Leu Asp His Asp Ser Ala Ser Ser Ala Ser Pro Thr Val
    290                 295                 300

Asp Gly Thr Thr Thr Gly Thr Ala Met Asp Asp Ala Asp Pro Pro Gly
305                 310                 315                 320

Pro Glu Asn Leu Phe Val Asn Tyr Leu Ser Arg Ile His Arg Glu Glu
                325                 330                 335

Asp Phe Gln Phe Ile Leu Lys Gly Ile Ala Arg Leu Leu Ser Asn Pro
            340                 345                 350

Leu Leu Gln Thr Tyr Leu Pro Asn Ser Thr Lys Lys Ile Gln Phe His
        355                 360                 365

Gln Glu Leu Leu Val Leu Phe Trp Lys Leu Cys Asp Phe Asn Lys Lys
    370                 375                 380

Phe Leu Phe Phe Val Leu Lys Ser Ser Asp Val Leu Asp Ile Leu Val
385                 390                 395                 400

Pro Ile Leu Phe Phe Leu Asn Asp Ala Arg Ala Asp Gln Ser Arg Val
                405                 410                 415

Gly Leu Met His Ile Gly Val Phe Ile Leu Leu Leu Leu Ser Gly Glu
            420                 425                 430
```

```
Arg Asn Phe Gly Val Arg Leu Asn Lys Pro Tyr Ser Ile Arg Val Pro
        435                 440                 445

Met Asp Ile Pro Val Phe Thr Gly Thr His Ala Asp Leu Leu Ile Val
    450                 455                 460

Val Phe His Lys Ile Ile Thr Ser Gly His Gln Arg Leu Gln Pro Leu
465                 470                 475                 480

Phe Asp Cys Leu Leu Thr Ile Val Val Asn Val Ser Pro Tyr Leu Lys
                485                 490                 495

Ser Leu Ser Met Val Thr Ala Asn Lys Leu Leu His Leu Leu Glu Ala
            500                 505                 510

Phe Ser Thr Thr Trp Phe Leu Phe Ser Ala Ala Gln Asn His His Leu
        515                 520                 525

Val Phe Phe Leu Leu Glu Val Phe Asn Asn Ile Ile Gln Tyr Gln Phe
    530                 535                 540

Asp Gly Asn Ser Asn Leu Val Tyr Ala Ile Ile Arg Lys Arg Ser Ile
545                 550                 555                 560

Phe His Gln Leu Ala Asn Leu Pro Thr Asp Pro Pro Thr Ile His Lys
                565                 570                 575

Ala Leu Gln Arg Arg Arg Arg Thr Pro Glu Pro Leu Ser Arg Thr Gly
            580                 585                 590

Ser Gln Glu Gly Thr Ser Met Glu Gly Ser Arg Pro Ala Ala Pro Ala
        595                 600                 605

Glu Pro Gly Thr Leu Lys Thr Ser Leu Val Ala Thr Pro Gly Ile Asp
    610                 615                 620

Lys Leu Thr Glu Lys Ser Gln Val Ser Glu Asp Gly Thr Leu Arg Ser
625                 630                 635                 640

Leu Glu Pro Glu Pro Gln Gln Ser Leu Glu Asp Gly Ser Pro Ala Lys
                645                 650                 655

Gly Glu Pro Ser Gln Ala Trp Arg Glu Gln Arg Arg Pro Ser Thr Ser
            660                 665                 670

Ser Ala Ser Gly Gln Trp Ser Pro Thr Pro Glu Trp Val Leu Ser Trp
        675                 680                 685

Lys Ser Lys Leu Pro Leu Gln Thr Ile Met Arg Leu Leu Gln Val Leu
    690                 695                 700

Val Pro Gln Val Glu Lys Ile Cys Ile Asp Lys Gly Leu Thr Asp Glu
705                 710                 715                 720

Ser Glu Ile Leu Arg Phe Leu Gln His Gly Thr Leu Val Gly Leu Leu
                725                 730                 735
```

```
Pro Val Pro His Pro Ile Leu Ile Arg Lys Tyr Gln Ala Asn Ser Gly
            740                 745                 750

Thr Ala Met Trp Phe Arg Thr Tyr Met Trp Gly Val Ile Tyr Leu Arg
        755                 760                 765

Asn Val Asp Pro Pro Val Trp Tyr Asp Thr Asp Val Lys Leu Phe Glu
    770                 775                 780

Ile Gln Arg Val
785
```

<210> 13
<211> 1116
<212> DNA
<213> Homo sapiens

<400> 13

```
atgtaccggg acccggaggc ggccagccca ggtgcgccct cgcgcgacgt cctgctggtc 60
tctgccatca tcaccgtcag ccttagcgtc actgtcgtcc tcgctagccg gtgccactgg 120
tgtcagcgca aactgggcaa acgctacaag aattccttgg agacggtggg cacgccagac 180
tcaggacgtg ggcgcagtga gaagaaggct atcaagttgc ctgcaggagg gaaggcggtg 240
aacacagccc ccgtgccagg ccagacaccc cacgatgagt ccgaccgccg gaccgagcca 300
cgttcctcct tctcagacct cgtcaactcc ctcaccagcg agatgctcat ggagtccacg 360
ctcaccgtga agatcatgaa ggcccaggag ctgccggcca aggacttcag cggcaccagc 420
gacccccttcg tcaagatcta cctgctgccc gacaagaagc acaagctgga gaccaaggtg 480
aagcggaaga acctgaaccc ccactggaac gagaccttcc tctttgaagg ttttccctat 540
gagaaggtgg tgcagaggat cctctacctc caagtcctgg actatgaccg cttcagccgc 600
cacgacccca ttggggaggt gtccatcccc cttaaacagg tggacctgac ccagatgcag 660
atctggaagg atctgaagcc atgcagcgat gggagtggga gccgagggga gctgctcttg 720
tctctctgct acaacccctc tgccaactcc atcatcgtga acatcatcaa agcccggaac 780
ctcaaagcca tggacatcgg gggcacatca gacccctacg tgaaggtatg gctgatgtac 840
aaggacaagc gggtggagaa gaagaagacg gtgacgatga agaggaacct gaaccccatc 900
ttcaatgagt ccttcgcctt cgatatcccc acggagaagc tgagggagac gaccatcatc 960
atcactgtca tggacaagga caagctcagc cgcaatgacg tcatcggcaa gatctacctg 1020
tcctggaaga gcgggccagg ggaggtgaag cactggaagg acatgattgc ccgtccccgg 1080
cagcccgtgg cccagtggca ccagctgaag gcctga                          1116
```

<210> 14
<211> 371
<212> PRT
<213> Homo sapiens

<400> 14

```
Met Tyr Arg Asp Pro Glu Ala Ala Ser Pro Gly Ala Pro Ser Arg Asp
  1               5                  10                  15

Val Leu Leu Val Ser Ala Ile Ile Thr Val Ser Leu Ser Val Thr Val
             20                  25                  30

Val Leu Ala Ser Arg Cys His Trp Cys Gln Arg Lys Leu Gly Lys Arg
         35                  40                  45

Tyr Lys Asn Ser Leu Glu Thr Val Gly Thr Pro Asp Ser Gly Arg Gly
```

```
     50                  55                  60

Arg Ser Glu Lys Lys Ala Ile Lys Leu Pro Ala Gly Gly Lys Ala Val
 65                  70                  75                  80

Asn Thr Ala Pro Val Pro Gly Gln Thr Pro His Asp Glu Ser Asp Arg
                85                  90                  95

Arg Thr Glu Pro Arg Ser Ser Phe Ser Asp Leu Val Asn Ser Leu Thr
            100                 105                 110

Ser Glu Met Leu Met Glu Ser Thr Leu Thr Val Lys Ile Met Lys Ala
        115                 120                 125

Gln Glu Leu Pro Ala Lys Asp Phe Ser Gly Thr Ser Asp Pro Phe Val
    130                 135                 140

Lys Ile Tyr Leu Leu Pro Asp Lys Lys His Lys Leu Glu Thr Lys Val
145                 150                 155                 160

Lys Arg Lys Asn Leu Asn Pro His Trp Asn Glu Thr Phe Leu Phe Glu
                165                 170                 175

Gly Phe Pro Tyr Glu Lys Val Val Gln Arg Ile Leu Tyr Leu Gln Val
            180                 185                 190

Leu Asp Tyr Asp Arg Phe Ser Arg His Asp Pro Ile Gly Glu Val Ser
        195                 200                 205

Ile Pro Leu Lys Gln Val Asp Leu Thr Gln Met Gln Ile Trp Lys Asp
    210                 215                 220

Leu Lys Pro Cys Ser Asp Gly Ser Gly Ser Arg Gly Glu Leu Leu Leu
225                 230                 235                 240

Ser Leu Cys Tyr Asn Pro Ser Ala Asn Ser Ile Ile Val Asn Ile Ile
                245                 250                 255

Lys Ala Arg Asn Leu Lys Ala Met Asp Ile Gly Gly Thr Ser Asp Pro
            260                 265                 270

Tyr Val Lys Val Trp Leu Met Tyr Lys Asp Lys Arg Val Glu Lys Lys
        275                 280                 285

Lys Thr Val Thr Met Lys Arg Asn Leu Asn Pro Ile Phe Asn Glu Ser
    290                 295                 300

Phe Ala Phe Asp Ile Pro Thr Glu Lys Leu Arg Glu Thr Thr Ile Ile
305                 310                 315                 320

Ile Thr Val Met Asp Lys Asp Lys Leu Ser Arg Asn Asp Val Ile Gly
                325                 330                 335

Lys Ile Tyr Leu Ser Trp Lys Ser Gly Pro Gly Glu Val Lys His Trp
            340                 345                 350

Lys Asp Met Ile Ala Arg Pro Arg Gln Pro Val Ala Gln Trp His Gln
```

```
        355                 360                 365

Leu Lys Ala
    370
```

<210> 15
<211> 1212
<212> DNA
<213> Homo sapiens

<400> 15

```
atgtaccggg acccggaggc ggccagccca ggggcgccct cgcgcgacgt cctgctggtc 60
tctgccatca tcaccgtcag ccttagcgtc actgtcgtcc tctgcggcct ctgccactgg 120
tgtcagcgca aactgggcaa acgctacaag aattccttgg agacggtggg cacgccagac 180
tcagggcgtg ggcgcagtga gaagaaggct atcaagttgc ctgcaggagg gaaggcggtg 240
aacacagccc ccgtgccagg ccagacaccc cacgatgagt ccgaccgccg gaccgagcca 300
cgttcctccg tctcagacct cgtcaactcc ctcaccagcg agatgctcat gctctcccca 360
ggctccgagg aggatgaggc ccacgagggt tgcagccgag agaacctggg ccggatccag 420
ttcagtgtcg gctacaactt ccaggagtcc acgctcaccg tgaagatcat gaaggcccag 480
gagctgccgg ccaaggactt cagcggcacc agcgacccct tcgtcaagat ctacctgctg 540
cccgacaaga agcacaagct ggagaccaag gtgaagcgga agaacctgaa cccccactgg 600
aacgagacct tcctctttga aggttttccc tatgagaagg tggtgcagag gatcctctac 660
ctccaagtcc tggactatga ccgcttcagc cgcaacgacc ccattgggga ggtgtccatc 720
ccccttaaca aggtggacct gacccagatg cagaccttct ggaaggatct gaagccatgc 780
agcgatggga gtgggagccg aggggagctg ctcttgtctc tctgctacaa ccctctgcc 840
aactccatca tcgtgaacat catcaaagcc cggaacctca aagccatgga catcgggggc 900
acatcagacc cctacgtgaa ggtatggctg atgtacaagg acaagcgggt ggagaagaag 960
aagacggtga cgatgaagag gaacctgaac cccatcttca atgagtcctt cgccttcgat 1020
atccccacgg agaagctgag ggagacgacc atcatcatca ctgtcatgga caaggacaag 1080
ctcagccgca atgacgtcat cggcaagatc tacctgtcct ggaagagcgg gccaggggag 1140
gtgaagcact ggaaggacat gattgcccgt ccccggcagc ccgtggccca gtggcaccag 1200
ctgaaggcct ga                                                      1212
```

<210> 16
<211> 403
<212> PRT
<213> Homo sapiens

<400> 16

```
Met Tyr Arg Asp Pro Glu Ala Ala Ser Pro Gly Ala Pro Ser Arg Asp
  1               5                  10                  15

Val Leu Leu Val Ser Ala Ile Ile Thr Val Ser Leu Ser Val Thr Val
             20                  25                  30

Val Leu Cys Gly Leu Cys His Trp Cys Gln Arg Lys Leu Gly Lys Arg
         35                  40                  45

Tyr Lys Asn Ser Leu Glu Thr Val Gly Thr Pro Asp Ser Gly Arg Gly
     50                  55                  60

Arg Ser Glu Lys Lys Ala Ile Lys Leu Pro Ala Gly Gly Lys Ala Val
 65                  70                  75                  80

Asn Thr Ala Pro Val Pro Gly Gln Thr Pro His Asp Glu Ser Asp Arg
```

```
                85                  90                  95

Arg Thr Glu Pro Arg Ser Ser Val Ser Asp Leu Val Asn Ser Leu Thr
            100                 105                 110

Ser Glu Met Leu Met Leu Ser Pro Gly Ser Glu Glu Asp Glu Ala His
        115                 120                 125

Glu Gly Cys Ser Arg Glu Asn Leu Gly Arg Ile Gln Phe Ser Val Gly
    130                 135                 140

Tyr Asn Phe Gln Glu Ser Thr Leu Thr Val Lys Ile Met Lys Ala Gln
145                 150                 155                 160

Glu Leu Pro Ala Lys Asp Phe Ser Gly Thr Ser Asp Pro Phe Val Lys
                165                 170                 175

Ile Tyr Leu Leu Pro Asp Lys Lys His Lys Leu Glu Thr Lys Val Lys
            180                 185                 190

Arg Lys Asn Leu Asn Pro His Trp Asn Glu Thr Phe Leu Phe Glu Gly
        195                 200                 205

Phe Pro Tyr Glu Lys Val Val Gln Arg Ile Leu Tyr Leu Gln Val Leu
    210                 215                 220

Asp Tyr Asp Arg Phe Ser Arg Asn Asp Pro Ile Gly Glu Val Ser Ile
225                 230                 235                 240

Pro Leu Asn Lys Val Asp Leu Thr Gln Met Gln Thr Phe Trp Lys Asp
                245                 250                 255

Leu Lys Pro Cys Ser Asp Gly Ser Gly Ser Arg Gly Glu Leu Leu Leu
            260                 265                 270

Ser Leu Cys Tyr Asn Pro Ser Ala Asn Ser Ile Ile Val Asn Ile Ile
        275                 280                 285

Lys Ala Arg Asn Leu Lys Ala Met Asp Ile Gly Gly Thr Ser Asp Pro
    290                 295                 300

Tyr Val Lys Val Trp Leu Met Tyr Lys Asp Lys Arg Val Glu Lys Lys
305                 310                 315                 320

Lys Thr Val Thr Met Lys Arg Asn Leu Asn Pro Ile Phe Asn Glu Ser
                325                 330                 335

Phe Ala Phe Asp Ile Pro Thr Glu Lys Leu Arg Glu Thr Thr Ile Ile
            340                 345                 350

Ile Thr Val Met Asp Lys Asp Lys Leu Ser Arg Asn Asp Val Ile Gly
        355                 360                 365

Lys Ile Tyr Leu Ser Trp Lys Ser Gly Pro Gly Glu Val Lys His Trp
    370                 375                 380

Lys Asp Met Ile Ala Arg Pro Arg Gln Pro Val Ala Gln Trp His Gln
```

385 390 395 400

Leu Lys Ala

<210> 17
<211> 1164
<212> DNA
<213> Homo sapiens

<400> 17
ctgccttgct ccacacctgg tcaggggaga gaggggagga aagccaaggg aagggaccta 60
actgaaaaca aacaagctgg gagaagcagg aatctgcgct cgggttccgc agatgcagag 120
gttgaggtgg ctgcgggact ggaagtcatc gggcagaggt ctcacagcag ccaaggaacc 180
tggggcccgc tcctcccccc tccaggccat gaggattctg cagttaatcc tgcttgctct 240
ggcaacaggg cttgtagggg gagagaccag gatcatcaag gggttcgagt gcaagcctca 300
ctcccagccc tggcaggcag ccctgttcga gaagacgcgg ctactctgtg gggcgacgct 360
catcgccccc agatggctcc tgacagcagc ccactgcctc aagcccctcc ccaacaaaga 420
ccgccgcaat gacatcatgc tggtgaagat ggcatcgcca gtctccatca cctgggctgt 480
gcgacccctc accctctcct cacgctgtgt cactgctggc accagctgcc tcatttccgg 540
ctggggcagc acgtccagcc cccagttacg cctgcctcac accttgcgat gcgccaacat 600
caccatcatt gagcaccaga agtgtgagaa cgcctacccc ggcaacatca cagacaccat 660
ggtgtgtgcc agcgtgcagg aaggggggcaa ggactcctgc cagggtgact ccgggggccc 720
tctggtctgt aaccagtctc ttcaaggcat tatctcctgg ggccaggatc cgtgtgcgat 780
cacccgaaag cctggtgtct acacgaaagt ctgcaaatat gtggtctgga tccaggagac 840
gattaagaac aattaggctg gacccaccca ccacagccca tcaccctcca tttccacttg 900
gtgtttggtt cctgttcact ctgttaataa gaaaccctaa gccaagaccc tctacgaaca 960
ttctttgggc ctcctggact acaggagatg ctgtcactta ataatcaacc tggggttcga 1020
aatcagtgag acctggattc aaattctgcc ttgaaatatt gtgactctgg gaatgacaac 1080
acctggtttg ttttttgttg tatccccagc cccaaagaca gctcctggcc atatatcaag 1140
gtttcaataa atatttgcta aatg 1164

<210> 18
<211> 247
<212> PRT
<213> Homo sapiens

<400> 18
Met Gln Arg Leu Arg Trp Leu Arg Asp Trp Lys Ser Ser Gly Arg Gly
1 5 10 15

Leu Thr Ala Ala Lys Glu Pro Gly Ala Arg Ser Ser Pro Leu Gln Ala
20 25 30

Met Arg Ile Leu Gln Leu Ile Leu Leu Ala Leu Ala Thr Gly Leu Val
35 40 45

Gly Gly Glu Thr Arg Ile Ile Lys Gly Phe Glu Cys Lys Pro His Ser
50 55 60

Gln Pro Trp Gln Ala Ala Leu Phe Glu Lys Thr Arg Leu Leu Cys Gly
65 70 75 80

Ala Thr Leu Ile Ala Pro Arg Trp Leu Leu Thr Ala Ala His Cys Leu
85 90 95

```
Lys Pro Leu Pro Asn Lys Asp Arg Arg Asn Asp Ile Met Leu Val Lys
            100                 105                 110

Met Ala Ser Pro Val Ser Ile Thr Trp Ala Val Arg Pro Leu Thr Leu
        115                 120                 125

Ser Ser Arg Cys Val Thr Ala Gly Thr Ser Cys Leu Ile Ser Gly Trp
    130                 135                 140

Gly Ser Thr Ser Ser Pro Gln Leu Arg Leu Pro His Thr Leu Arg Cys
145                 150                 155                 160

Ala Asn Ile Thr Ile Ile Glu His Gln Lys Cys Glu Asn Ala Tyr Pro
                165                 170                 175

Gly Asn Ile Thr Asp Thr Met Val Cys Ala Ser Val Gln Glu Gly Gly
            180                 185                 190

Lys Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Asn Gln
        195                 200                 205

Ser Leu Gln Gly Ile Ile Ser Trp Gly Gln Asp Pro Cys Ala Ile Thr
    210                 215                 220

Arg Lys Pro Gly Val Tyr Thr Lys Val Cys Lys Tyr Val Val Trp Ile
225                 230                 235                 240

Gln Glu Thr Ile Lys Asn Asn
                245
```

<210> 19
<211> 1785
<212> DNA
<213> Homo sapiens

<400> 19
atgtccgcgc tgcgacctct cctgcttctg ctgctgcctc tgtgtcccgg tcctggtccc 60
ggacccggga gcgaggcaaa ggtcacccgg agttgtgcag agacccggca ggtgctgggg 120
gcccggggat atagcttaaa cctaatccct cccgccctga tctcaggtga gcacctccgg 180
gtctgtcccc aggagtacac ctgctgttcc agtgagacag agcagaggct gatcagggag 240
actgaggcca ccttccgagg cctggtggag gacagcggct cctttctggt tcacacactg 300
gctgccaggc acagaaaatt tgatgagttt tttctggaga tgctctcagt agcccagcac 360
tctctgaccc agctcttctc ccactcctac ggccgcctgt atgcccagca cgccctcata 420
ttcaatggcc tgttctctcg gctgcgagac ttctatgggg aatctggtga ggggttggat 480
gacaccctgg cggatttctg ggcacagctc ctggagagag tgttcccgct gctgcaccca 540
cagtacagct tccccccctga ctacctgctc tgcctctcac gcttggcctc atctaccgat 600
ggctctctgc agccctttgg ggactcaccc cgccgcctcc gcctgcagat aacccggacc 660
ctggtggctg cccgagcctt tgtgcagggc ctggagactg gaagaaatgt ggtcagcgaa 720
gcgcttaagg ttccggtgtc tgaaggctgc agccaggctc tgatgcgtct catcggctgt 780
cccctgtgcc gggggggtccc ctcacttatg ccctgccagg gcttctgcct caacgtggtt 840
cgtggctgtc tcagcagcag gggactggag cctgactggg gcaactatct ggatggtctc 900
ctgatcctgg ctgataagct ccagggcccc ttttcctttg agctgacggc cgagtccatt 960
ggggtgaaga tctcggaggg tttgatgtac ctgcaggaaa acagtgcgaa ggtgtccgcc 1020
caggtatttc aggagtgcgg ccccccccgac ccggtgcctg cccgcaaccg tcgagccccg 1080
ccgccccggg aagaggcggg ccggctgtgg tcgatggtga ccgaggagga gcggccaacg 1140

```
accgccgcag gcaccaacct gcaccggctg gtgtgggagc tccgcgagcg tctggcccgg 1200
atgcggggct tctgggcccg gctgtccctg acggtgtgcg gagactctcg catggcagcg 1260
gacgcctcgc tggaggcggc gccctgctgg accggagccg ggcggggccg gtacttgccg 1320
ccagtggtcg ggggctcccc ggccgagcag gtcaacaacc ccgagctcaa ggtggacgcc 1380
tcgggccccg atgtcccgac acggcggcgt cggctacagc tccgggcggc cacggccaga 1440
atgaaaacgg ccgcactggg acacgacctg gacgggcagg acgcagatga ggatgccagc 1500
ggctctggag ggggacagca gtatgcagat gactggatgg ctggggctgt ggctccccca 1560
gcccggcctc ctcggcctcc ataccctcct agaagggatg gttctggggg caaaggagga 1620
ggtggcagtg cccgctacaa ccagggccgg agcaggagtg gggggcatc tattggtttt 1680
cacacccaaa ccatcctcat tctctccctc tcagccctgg ccctgcttgg acctcgataa 1740
cgggggaggg gtgccctagc atcagaaggg ttcatggccc tttcc                 1785
```

<210> 20
<211> 579
<212> PRT
<213> Homo sapiens

<400> 20

```
Met Ser Ala Leu Arg Pro Leu Leu Leu Leu Leu Pro Leu Cys Pro
  1               5                  10                  15

Gly Pro Gly Pro Gly Pro Gly Ser Glu Ala Lys Val Thr Arg Ser Cys
             20                  25                  30

Ala Glu Thr Arg Gln Val Leu Gly Ala Arg Gly Tyr Ser Leu Asn Leu
         35                  40                  45

Ile Pro Pro Ala Leu Ile Ser Gly Glu His Leu Arg Val Cys Pro Gln
     50                  55                  60

Glu Tyr Thr Cys Cys Ser Ser Glu Thr Glu Gln Arg Leu Ile Arg Glu
 65                  70                  75                  80

Thr Glu Ala Thr Phe Arg Gly Leu Val Glu Asp Ser Gly Ser Phe Leu
                 85                  90                  95

Val His Thr Leu Ala Ala Arg His Arg Lys Phe Asp Glu Phe Phe Leu
            100                 105                 110

Glu Met Leu Ser Val Ala Gln His Ser Leu Thr Gln Leu Phe Ser His
        115                 120                 125

Ser Tyr Gly Arg Leu Tyr Ala Gln His Ala Leu Ile Phe Asn Gly Leu
    130                 135                 140

Phe Ser Arg Leu Arg Asp Phe Tyr Gly Glu Ser Gly Glu Gly Leu Asp
145                 150                 155                 160

Asp Thr Leu Ala Asp Phe Trp Ala Gln Leu Leu Glu Arg Val Phe Pro
                165                 170                 175

Leu Leu His Pro Gln Tyr Ser Phe Pro Pro Asp Tyr Leu Leu Cys Leu
            180                 185                 190

Ser Arg Leu Ala Ser Ser Thr Asp Gly Ser Leu Gln Pro Phe Gly Asp
        195                 200                 205
```

```
Ser Pro Arg Arg Leu Arg Leu Gln Ile Thr Arg Thr Leu Val Ala Ala
    210                 215                 220

Arg Ala Phe Val Gln Gly Leu Glu Thr Gly Arg Asn Val Val Ser Glu
225                 230                 235                 240

Ala Leu Lys Val Pro Val Ser Glu Gly Cys Ser Gln Ala Leu Met Arg
                245                 250                 255

Leu Ile Gly Cys Pro Leu Cys Arg Gly Val Pro Ser Leu Met Pro Cys
            260                 265                 270

Gln Gly Phe Cys Leu Asn Val Val Arg Gly Cys Leu Ser Ser Arg Gly
        275                 280                 285

Leu Glu Pro Asp Trp Gly Asn Tyr Leu Asp Gly Leu Leu Ile Leu Ala
    290                 295                 300

Asp Lys Leu Gln Gly Pro Phe Ser Phe Glu Leu Thr Ala Glu Ser Ile
305                 310                 315                 320

Gly Val Lys Ile Ser Glu Gly Leu Met Tyr Leu Gln Glu Asn Ser Ala
                325                 330                 335

Lys Val Ser Ala Gln Val Phe Gln Glu Cys Gly Pro Pro Asp Pro Val
            340                 345                 350

Pro Ala Arg Asn Arg Arg Ala Pro Pro Pro Arg Glu Glu Ala Gly Arg
        355                 360                 365

Leu Trp Ser Met Val Thr Glu Glu Glu Arg Pro Thr Thr Ala Ala Gly
    370                 375                 380

Thr Asn Leu His Arg Leu Val Trp Glu Leu Arg Glu Arg Leu Ala Arg
385                 390                 395                 400

Met Arg Gly Phe Trp Ala Arg Leu Ser Leu Thr Val Cys Gly Asp Ser
                405                 410                 415

Arg Met Ala Ala Asp Ala Ser Leu Glu Ala Ala Pro Cys Trp Thr Gly
            420                 425                 430

Ala Gly Arg Gly Arg Tyr Leu Pro Pro Val Val Gly Gly Ser Pro Ala
        435                 440                 445

Glu Gln Val Asn Asn Pro Glu Leu Lys Val Asp Ala Ser Gly Pro Asp
    450                 455                 460

Val Pro Thr Arg Arg Arg Arg Leu Gln Leu Arg Ala Ala Thr Ala Arg
465                 470                 475                 480

Met Lys Thr Ala Ala Leu Gly His Asp Leu Asp Gly Gln Asp Ala Asp
                485                 490                 495

Glu Asp Ala Ser Gly Ser Gly Gly Gly Gln Gln Tyr Ala Asp Asp Trp
            500                 505                 510
```

```
Met Ala Gly Ala Val Ala Pro Pro Ala Arg Pro Pro Arg Pro Pro Tyr
        515                 520                 525

Pro Pro Arg Arg Asp Gly Ser Gly Gly Lys Gly Gly Gly Gly Ser Ala
    530                 535                 540

Arg Tyr Asn Gln Gly Arg Ser Arg Ser Gly Gly Ala Ser Ile Gly Phe
545                 550                 555                 560

His Thr Gln Thr Ile Leu Ile Leu Ser Leu Ser Ala Leu Ala Leu Leu
                565                 570                 575

Gly Pro Arg
```

<210> 21
<211> 1976
<212> DNA
<213> Homo sapiens

<400> 21

```
ggctctgctt tcctccttag gacccacttt gccgtcctgg ggtggctgca gttatgtccg 60
cgctgcgacc tctcctgctt ctgctgctgc ctctgtgtcc cggtcctggt cccggacccg 120
ggagcgaggc aaaggtcacc cggagttgtg cagagacccg gcaggtgctg ggggcccggg 180
gatatagctt aaacctaatc cctcccgccc tgatctcagg tgagcacctc cgggtctgtc 240
cccaggagta cacctgctgt tccagtgaga cagagcagag gctgatcagg gagactgagg 300
ccaccttccg aggcctggtg gaggacagcg gctcctttct ggttcacaca ctggctgcca 360
ggcacagaaa atttgatgag ttttttctgg agatgctctc agtagcccag cactctctga 420
cccagctctt ctcccactcc tacggccgcc tgtatgccca gcacgccctc atattcaatg 480
gcctgttctc tcggctgcga gacttctatg gggaatctgg tgaggggttg gatgacaccc 540
tggcggattt ctgggcacag ctcctggaga gagtgttccc gctgctgcac ccacagtaca 600
gcttcccccc tgactacctg ctctgcctct cacgcttggc ctcatctacc gatggctctc 660
tgcagccctt tggggactca ccccgccgcc tccgcctgca gataacccgg accctggtgg 720
ctgcccgagc ctttgtgcag ggcctggaga ctggaagaaa tgtggtcagc gaagcgctta 780
aggttccggt gtctgaaggc tgcagccagg ctctgatgcg tctcatcggc tgtcccctgt 840
gccgggggggt cccctcactt atgccctgcc agggcttctg cctcaacgtg gttcgtggct 900
gtctcagcag caggggactg gagcctgact ggggcaacta tctggatggt ctcctgatcc 960
tggctgataa gctccagggc ccctttttcct ttgagctgac ggccgagtcc attggggtga 1020
agatctcgga gggtttgatg tacctgcagg aaaacagtgc gaaggtgtcc gcccaggtat 1080
ttcaggagtg cggcccccccc gacccggtgc ctgcccgcaa ccgtcgagcc ccgccgcccc 1140
gggaagaggc gggccggctg tggtcgatgg tgaccgagga ggagcggcca agcgcagatg 1200
aggatgccag cggctctgga gggggacagc agtatgcaga tgactggatg gctggggctg 1260
tggctccccc agcccggcct cctcggcctc cataccctcc tagaagggat ggttctgggg 1320
gcaaaggagg aggtggcagt gcccgctaca accagggccg gagcaggagt ggggggggcat 1380
ctattggttt tcacacccaa accatcctca ttctctccct ctcagccctg gccctgcttg 1440
gacctcgata acgggggagg ggtgccctag catcagaagg gttcatggcc ctttcccctc 1500
ctccccccctc agctgggcct ggggaggagt cgaaggggggc tgcagagagg gtagagaagg 1560
gactttgcag gtgaatggct ggggccccaa atccaggaga ttttcatcag aggtgggtgg 1620
gtgttcacaa tatttatttt ttcatttggt aatgggaggg gggcctgggg gtatttattt 1680
aggagggagt gtggtttcct tagaaggtat agtctctagc cctctaaggc tggggctggt 1740
gatcagcccc aacagagaaa atgaggagtt tagagttgca gctgggttct gttgagtttt 1800
ttcagtatca atttcttaaa ccaaatttta aaaaaaacaa ggtgggggggg tgctcatctc 1860
gtgacctctg ccacccacat ccttcacaaa ctccatgttt cagtgtttga gtccatgttt 1920
attctgcaaa taaatggtaa tgtattagaa aaaaaaaaaa aaaaaaaaaa aaaaaa     1976
```

<210> 22
<211> 465
<212> PRT
<213> Homo sapiens

<400> 22
Met Ser Ala Leu Arg Pro Leu Leu Leu Leu Leu Pro Leu Cys Pro
1 5 10 15

Gly Pro Gly Pro Gly Pro Gly Ser Glu Ala Lys Val Thr Arg Ser Cys
20 25 30

Ala Glu Thr Arg Gln Val Leu Gly Ala Arg Gly Tyr Ser Leu Asn Leu
35 40 45

Ile Pro Pro Ala Leu Ile Ser Gly Glu His Leu Arg Val Cys Pro Gln
50 55 60

Glu Tyr Thr Cys Cys Ser Ser Glu Thr Glu Gln Arg Leu Ile Arg Glu
65 70 75 80

Thr Glu Ala Thr Phe Arg Gly Leu Val Glu Asp Ser Gly Ser Phe Leu
85 90 95

Val His Thr Leu Ala Ala Arg His Arg Lys Phe Asp Glu Phe Phe Leu
100 105 110

Glu Met Leu Ser Val Ala Gln His Ser Leu Thr Gln Leu Phe Ser His
115 120 125

Ser Tyr Gly Arg Leu Tyr Ala Gln His Ala Leu Ile Phe Asn Gly Leu
130 135 140

Phe Ser Arg Leu Arg Asp Phe Tyr Gly Glu Ser Gly Glu Gly Leu Asp
145 150 155 160

Asp Thr Leu Ala Asp Phe Trp Ala Gln Leu Leu Glu Arg Val Phe Pro
165 170 175

Leu Leu His Pro Gln Tyr Ser Phe Pro Pro Asp Tyr Leu Leu Cys Leu
180 185 190

Ser Arg Leu Ala Ser Ser Thr Asp Gly Ser Leu Gln Pro Phe Gly Asp
195 200 205

Ser Pro Arg Arg Leu Arg Leu Gln Ile Thr Arg Thr Leu Val Ala Ala
210 215 220

Arg Ala Phe Val Gln Gly Leu Glu Thr Gly Arg Asn Val Val Ser Glu
225 230 235 240

Ala Leu Lys Val Pro Val Ser Glu Gly Cys Ser Gln Ala Leu Met Arg
245 250 255

Leu Ile Gly Cys Pro Leu Cys Arg Gly Val Pro Ser Leu Met Pro Cys
260 265 270

```
Gln Gly Phe Cys Leu Asn Val Val Arg Gly Cys Leu Ser Ser Arg Gly
        275                 280                 285

Leu Glu Pro Asp Trp Gly Asn Tyr Leu Asp Gly Leu Leu Ile Leu Ala
    290                 295                 300

Asp Lys Leu Gln Gly Pro Phe Ser Phe Glu Leu Thr Ala Glu Ser Ile
305                 310                 315                 320

Gly Val Lys Ile Ser Glu Gly Leu Met Tyr Leu Gln Glu Asn Ser Ala
                325                 330                 335

Lys Val Ser Ala Gln Val Phe Gln Glu Cys Gly Pro Pro Asp Pro Val
            340                 345                 350

Pro Ala Arg Asn Arg Arg Ala Pro Pro Pro Arg Glu Glu Ala Gly Arg
        355                 360                 365

Leu Trp Ser Met Val Thr Glu Glu Glu Arg Pro Ser Ala Asp Glu Asp
    370                 375                 380

Ala Ser Gly Ser Gly Gly Gly Gln Gln Tyr Ala Asp Asp Trp Met Ala
385                 390                 395                 400

Gly Ala Val Ala Pro Pro Ala Arg Pro Pro Arg Pro Pro Tyr Pro Pro
                405                 410                 415

Arg Arg Asp Gly Ser Gly Gly Lys Gly Gly Gly Gly Ser Ala Arg Tyr
            420                 425                 430

Asn Gln Gly Arg Ser Arg Ser Gly Gly Ala Ser Ile Gly Phe His Thr
        435                 440                 445

Gln Thr Ile Leu Ile Leu Ser Leu Ser Ala Leu Ala Leu Leu Gly Pro
    450                 455                 460

Arg
465
```

<210> 23
<211> 1613
<212> DNA
<213> Homo sapiens

<400> 23
atgtccgcgc tgcgacctct cctgcttctg ctgctgcctc tgtgtcccgg tcctggtccc 60
ggacccggga gcgaggcaaa ggtcacccgg agttgtgcag agacccggca ggtgctgggg 120
gcccggggat atagcttaaa cctaatccct cccgccctga tctcaggtga gcacctccgg 180
gtctgtcccc aggagtacac ctgctgttcc agtgagacag agcagaggct gatcagggag 240
actgaggcca ccttccgagg cctggtggag gacagcggct cctttctggt tcacacactg 300
gctgccaggc acagaaaatt tgatgagttt tttctggaga tgctctcagt agcccagcac 360
tctctgaccc agctcttctc ccactcctac ggccgcctgt atgcccagca cgccctcata 420
ttcaatggcc tgttctctcg gctgcgagac ttctatgggg aatctggtga ggggttggat 480
gacaccctgg cggatttctg ggcacagctc ctggagagag tgttcccgct gctgcaccca 540
cagtacagct tccccccctga ctacctgctc tgcctctcac gcttggcctc atctaccgat 600

```
ggctctctgc agccctttgg ggactcaccc cgccgcctcc gcctgcagat aacccggacc 660
ctggtggctg cccgagcctt tgtgcagggc ctggagactg gaagaaatgt ggtcagcgaa 720
gcgcttaagg tgccggtgtc tgaaggctgc agccaggctc tgatgcgtct catcggctgt 780
cccctgtgcc gggggggtccc ctcacttatg ccctgccagg gcttctgcct caacgtggtt 840
cgtggctgtc tcagcagcag gggactggag cctgactggg gcaactatct ggatggtctc 900
ctgatcctgg ctgataagct ccagggcccc ttttcctttg agctgacggc cgagtccatt 960
ggggtgaaga tctcggaggg tttgatgtac ctgcaggaaa acagtgcgaa ggtgtccgcc 1020
caggtgtttc aggagtgcgg ccccccccgac ccggtgcctg cccgcaaccg tcgagccccg 1080
ccgccccggg aagaggcggg ccggctgtgg tcgatggtga ccgaggagga gcggcccacg 1140
acggccgcag gcaccaacct gcaccggctg gtacttgccg ccagtggtcg ggggctcccc 1200
ggccgagcag gtcaacaacc ccgagctcaa ggtggacgcc tcgggccccg atgtcccgac 1260
acggcggcgt cggctacagc tccgggcggc cacggccaga atgaaaacgg ccgcactggg 1320
acacgacctg gacgggcagg acgcggatga ggatgccagc ggctctggag ggggacagca 1380
gtatgcagat gactggatgg ctggggctgt ggctccccca gcccggcctc ctcggcctcc 1440
ataccctcct agaagggatg gttctggggg caaaggagga ggtggcagtg cccgctacaa 1500
ccagggccgg agcaggagtg ggggggcatc tattggtttt cacacccaaa ccatcctcat 1560
tctctccctc tcagacctgg ccctgcttgg acctcgataa cgggggaggg gtg        1613
```

<210> 24
<211> 449
<212> PRT
<213> Homo sapiens

<400> 24

```
Met Ser Ala Leu Arg Pro Leu Leu Leu Leu Leu Leu Pro Leu Cys Pro
  1               5                  10                  15

Gly Pro Gly Pro Gly Pro Gly Ser Glu Ala Lys Val Thr Arg Ser Cys
             20                  25                  30

Ala Glu Thr Arg Gln Val Leu Gly Ala Arg Gly Tyr Ser Leu Asn Leu
         35                  40                  45

Ile Pro Pro Ala Leu Ile Ser Gly Glu His Leu Arg Val Cys Pro Gln
     50                  55                  60

Glu Tyr Thr Cys Cys Ser Ser Glu Thr Glu Gln Arg Leu Ile Arg Glu
 65                  70                  75                  80

Thr Glu Ala Thr Phe Arg Gly Leu Val Glu Asp Ser Gly Ser Phe Leu
                 85                  90                  95

Val His Thr Leu Ala Ala Arg His Arg Lys Phe Asp Glu Phe Phe Leu
            100                 105                 110

Glu Met Leu Ser Val Ala Gln His Ser Leu Thr Gln Leu Phe Ser His
        115                 120                 125

Ser Tyr Gly Arg Leu Tyr Ala Gln His Ala Leu Ile Phe Asn Gly Leu
    130                 135                 140

Phe Ser Arg Leu Arg Asp Phe Tyr Gly Glu Ser Gly Glu Gly Leu Asp
145                 150                 155                 160

Asp Thr Leu Ala Asp Phe Trp Ala Gln Leu Leu Glu Arg Val Phe Pro
                165                 170                 175
```

```
Leu Leu His Pro Gln Tyr Ser Phe Pro Pro Asp Tyr Leu Leu Cys Leu
            180                 185                 190

Ser Arg Leu Ala Ser Ser Thr Asp Gly Ser Leu Gln Pro Phe Gly Asp
        195                 200                 205

Ser Pro Arg Arg Leu Arg Leu Gln Ile Thr Arg Thr Leu Val Ala Ala
    210                 215                 220

Arg Ala Phe Val Gln Gly Leu Glu Thr Gly Arg Asn Val Val Ser Glu
225                 230                 235                 240

Ala Leu Lys Val Pro Val Ser Glu Gly Cys Ser Gln Ala Leu Met Arg
                245                 250                 255

Leu Ile Gly Cys Pro Leu Cys Arg Gly Val Pro Ser Leu Met Pro Cys
            260                 265                 270

Gln Gly Phe Cys Leu Asn Val Val Arg Gly Cys Leu Ser Ser Arg Gly
        275                 280                 285

Leu Glu Pro Asp Trp Gly Asn Tyr Leu Asp Gly Leu Leu Ile Leu Ala
    290                 295                 300

Asp Lys Leu Gln Gly Pro Phe Ser Phe Glu Leu Thr Ala Glu Ser Ile
305                 310                 315                 320

Gly Val Lys Ile Ser Glu Gly Leu Met Tyr Leu Gln Glu Asn Ser Ala
                325                 330                 335

Lys Val Ser Ala Gln Val Phe Gln Glu Cys Gly Pro Pro Asp Pro Val
            340                 345                 350

Pro Ala Arg Asn Arg Arg Ala Pro Pro Pro Arg Glu Glu Ala Gly Arg
        355                 360                 365

Leu Trp Ser Met Val Thr Glu Glu Glu Arg Pro Thr Thr Ala Ala Gly
    370                 375                 380

Thr Asn Leu His Arg Leu Val Leu Ala Ala Ser Gly Arg Gly Leu Pro
385                 390                 395                 400

Gly Arg Ala Gly Gln Gln Pro Arg Ala Gln Gly Gly Arg Leu Gly Pro
                405                 410                 415

Arg Cys Pro Asp Thr Ala Ala Ser Ala Thr Ala Pro Gly Gly His Gly
            420                 425                 430

Gln Asn Glu Asn Gly Arg Thr Gly Thr Arg Pro Gly Arg Ala Gly Arg
        435                 440                 445

Gly
```

<210> 25

<211> 725
<212> DNA
<213> Homo sapiens

<400> 25
cgcctggtcc agctatcgtg ctcggtattc agttttccgg agcagcgctc tttctctggc 60
ccgcggaacg gtcccgcggc cgagtaccgg attcccgagt ttgggaggct ctgctttcct 120
ccttaggacc cactttgccg tcctggggtg gctgcagtta tgtccgcgct gcgacctctc 180
ctgcttctgc tgctgcctct gtgtcccggt cctggtcccg gacccgggag cgaggcaaag 240
gtcacccgga gttgtgcaga gacccggcag gtgctggggg cccggggata tagcttaaac 300
ctaatccctc ccgccctgat ctcaggtgag cacctccggg tctgtcccca ggagtacacc 360
tgctgttcca gtgagacaga gcagaggctg atcagggaga ctgaggccac cttccgaggc 420
ctggtggagg acagcggctc ctttctggtt cacacactgg ctgccaggca cagaaaattt 480
gatgagtttt ttctggagat gctctcagta gcccggcctc ctcggcctcc ataccctcct 540
agaagggatg gttctggggg caaaggagga ggtggcagtg cccgctacaa ccagggccgg 600
agcaggagtg ggggggcatc tattggtttt cacacccaaa ccatcctcat tctctccctc 660
tcagccctgg ccttgcttgg acctcgataa cgggggaggg gtgccctagc atcagaaggg 720
ttcat 725

<210> 26
<211> 176
<212> PRT
<213> Homo sapiens

<400> 26
Met Ser Ala Leu Arg Pro Leu Leu Leu Leu Leu Leu Pro Leu Cys Pro
 1   5   10   15

Gly Pro Gly Pro Gly Pro Gly Ser Glu Ala Lys Val Thr Arg Ser Cys
            20   25   30

Ala Glu Thr Arg Gln Val Leu Gly Ala Arg Gly Tyr Ser Leu Asn Leu
        35   40   45

Ile Pro Pro Ala Leu Ile Ser Gly Glu His Leu Arg Val Cys Pro Gln
    50   55   60

Glu Tyr Thr Cys Cys Ser Ser Glu Thr Glu Gln Arg Leu Ile Arg Glu
65   70   75   80

Thr Glu Ala Thr Phe Arg Gly Leu Val Glu Asp Ser Gly Ser Phe Leu
                85   90   95

Val His Thr Leu Ala Ala Arg His Arg Lys Phe Asp Glu Phe Phe Leu
            100   105   110

Glu Met Leu Ser Val Ala Arg Pro Pro Arg Pro Pro Tyr Pro Pro Arg
        115   120   125

Arg Asp Gly Ser Gly Gly Lys Gly Gly Gly Gly Ser Ala Arg Tyr Asn
    130   135   140

Gln Gly Arg Ser Arg Ser Gly Gly Ala Ser Ile Gly Phe His Thr Gln
145   150   155   160

Thr Ile Leu Ile Leu Ser Leu Ser Ala Leu Ala Leu Leu Gly Pro Arg

165 170 175

<210> 27
<211> 986
<212> DNA
<213> Homo sapiens

<400> 27
tccactacgg gcccaggcta gaggcgccgc cgccgccggc ccgcggagcc ccgatgctgg 60
cccggaggaa gccggtgctg ccggcgctca ccatcaaccc taccatcgcc gagggcccat 120
cccctaccag cgagggcgcc tccgaggcaa acctggtgga cctgcagaag aagctggagg 180
agctggaact tgacgagcag cagaagaagc ggctggaagc ctttctcacc cagaaagcca 240
aggtcggcga actcaaagac gatgacttcg aaaggatctc agagctgggc gcgggcaacg 300
gcggggtggt caccaaagtc cagcacagac cctcgggcct catcatggcc aggaagctga 360
tccaccttga gatcaagccg gccatccgga accagatcat ccgcgagctg caggtcctgc 420
acgaatgcaa ctcgccgtac atcgtgggct tctacggggc cttctacagt gacggggaga 480
tcagcatttg catggaacac atggacggcg gctccctgga ccaggtgctg aaagaggcca 540
agaggattcc cgaggagatc ctggggaaag tcagcatcgc ggttctccgg ggcttggcgt 600
acctccgaga gaagcaccag atcatgcacc gagatgtgaa gccctccaac atcctcgtga 660
actctagagg ggagatcaag ctgtgtgact tcggggtgag cggccagctc atcgactcca 720
tggccaactc cttcgtgggc acgcgctcct acatggctcc acctcctaag ctgcccaacg 780
gtgtgttcac ccccgacttc caggagtttg tcaataaatg cctcatcaag aacccagcgg 840
agcgggcgga cctgaagatg ctcacaaacc acaccttcat caagcggtcc gaggtggaag 900
aagtggattt tgccggctgg ttgtgtaaaa ccctgcggct gaaccagccc ggcacaccca 960
cgcgcaccgc cgtgtgacag tggcaa 986

<210> 28
<211> 307
<212> PRT
<213> Homo sapiens

<400> 28
Met Leu Ala Arg Arg Lys Pro Val Leu Pro Ala Leu Thr Ile Asn Pro
1 5 10 15

Thr Ile Ala Glu Gly Pro Ser Pro Thr Ser Glu Gly Ala Ser Glu Ala
20 25 30

Asn Leu Val Asp Leu Gln Lys Lys Leu Glu Glu Leu Glu Leu Asp Glu
35 40 45

Gln Gln Lys Lys Arg Leu Glu Ala Phe Leu Thr Gln Lys Ala Lys Val
50 55 60

Gly Glu Leu Lys Asp Asp Asp Phe Glu Arg Ile Ser Glu Leu Gly Ala
65 70 75 80

Gly Asn Gly Gly Val Val Thr Lys Val Gln His Arg Pro Ser Gly Leu
85 90 95

Ile Met Ala Arg Lys Leu Ile His Leu Glu Ile Lys Pro Ala Ile Arg
100 105 110

```
Asn Gln Ile Ile Arg Glu Leu Gln Val Leu His Glu Cys Asn Ser Pro
        115                 120                 125

Tyr Ile Val Gly Phe Tyr Gly Ala Phe Tyr Ser Asp Gly Glu Ile Ser
    130                 135                 140

Ile Cys Met Glu His Met Asp Gly Gly Ser Leu Asp Gln Val Leu Lys
145                 150                 155                 160

Glu Ala Lys Arg Ile Pro Glu Glu Ile Leu Gly Lys Val Ser Ile Ala
                165                 170                 175

Val Leu Arg Gly Leu Ala Tyr Leu Arg Glu Lys His Gln Ile Met His
            180                 185                 190

Arg Asp Val Lys Pro Ser Asn Ile Leu Val Asn Ser Arg Gly Glu Ile
        195                 200                 205

Lys Leu Cys Asp Phe Gly Val Ser Gly Gln Leu Ile Asp Ser Met Ala
    210                 215                 220

Asn Ser Phe Val Gly Thr Arg Ser Tyr Met Ala Pro Pro Pro Lys Leu
225                 230                 235                 240

Pro Asn Gly Val Phe Thr Pro Asp Phe Gln Glu Phe Val Asn Lys Cys
                245                 250                 255

Leu Ile Lys Asn Pro Ala Glu Arg Ala Asp Leu Lys Met Leu Thr Asn
            260                 265                 270

His Thr Phe Ile Lys Arg Ser Glu Val Glu Glu Val Asp Phe Ala Gly
        275                 280                 285

Trp Leu Cys Lys Thr Leu Arg Leu Asn Gln Pro Gly Thr Pro Thr Arg
    290                 295                 300

Thr Ala Val
305
```

<210> 29
<211> 1506
<212> DNA
<213> Homo sapiens

<400> 29
cgctgaggtt tgagatctcg agagggtccc gtacgacgag cactgtgaac ctccgcctgc 60
ttgtccggct catggccaca ctgatccttt gcagggtcgg tgcccagccc cccacagggg 120
cagaggaggg agcgtgtctg ggtgagtcct cccccggtgg agggtgggct gggtgccgac 180
cagccgtgga tctgacatct ctgttgactc tctgcagtgg atctgatcac atccagcccc 240
cagtgcctgc acggcttggt ggggtgggtg catggacatg cggccagctg cggggcccta 300
ccccaccttc agaggacact gtcctccgag tactgcggcg tcatccaggt cgtgtggggc 360
tgcgaccagg gccacgacta caccatggat accagctcca gctgcaaggc cttcttgctg 420
gacagtgcgc tggcagtcaa gtggccatgg gacaaagaga cggcgccacg gctgccccag 480
caccgagggt ggaaccctgg ggatgcccct cagacctccc agggtagagg gacagggacc 540
ccagttgggg ctgagaccaa gaccctgccc agcacggatg tggcccagcc tccttcggac 600

```
agcgacgcgg tggggcccag gtcgggcttc ccacctcagc caagcctgcc cctttgcagg 660
gccccagggc agttgggtga gaagcagctt ccatcttcaa cctcggatga tcgggtaaaa 720
gacgagttca gtgacctttc tgagggagac gtcttgagtg aagatgaaaa tgacaagaag 780
caaaatgccc agtcttcgga cgagtccttt gagccttacc cagaaaggaa agtctctggt 840
aagaagagtg aaagcaaaga agccaagaag tctgaagaac caagaattcg gaagaagccg 900
ggacccaagc ccggatggaa gaagaagctt cgttgtgaga gggaggagct tcccaccatc 960
tacaagtgtc cttaccaggg ctgcacggcc gtgtaccgag gcgctgacgg catgaagaag 1020
cacatcaagg agcaccacga ggaggtccgg gagcggccct gcccccaccc tggctgcaac 1080
aaggttttca tgatcgaccg ctacctgcag cgccacgtga agctcatcca cacagaggtg 1140
cggaactata tctgtgacga atgtggacaa accttcaagc agcggaagca ccttctcgtc 1200
caccaaatgc gacattcggg agccaagcct ttgcagtgtg aggtctgtgg gttccagtgc 1260
aggcagcggg catccctcaa gtaccacatg accaaacaca aggctgagac tgagctggac 1320
tttgcctgtg accagtgtgg ccggcggttt gagaaggccc acaacctcaa tgtacacatg 1380
tccatggtgc acccgctgac acagacccag gacaaggccc tgcccctgga ggcggaacca 1440
ccacctgggc caccgagccc ctctgtgacc acagagggcc aggcggtgaa gcccgaaccc 1500
acctga                                                           1506
```

<210> 30
<211> 373
<212> PRT
<213> Homo sapiens

<400> 30

```
Met Asp Thr Ser Ser Ser Cys Lys Ala Phe Leu Leu Asp Ser Ala Leu
  1               5                  10                  15

Ala Val Lys Trp Pro Trp Asp Lys Glu Thr Ala Pro Arg Leu Pro Gln
             20                  25                  30

His Arg Gly Trp Asn Pro Gly Asp Ala Pro Gln Thr Ser Gln Gly Arg
         35                  40                  45

Gly Thr Gly Thr Pro Val Gly Ala Glu Thr Lys Thr Leu Pro Ser Thr
     50                  55                  60

Asp Val Ala Gln Pro Pro Ser Asp Ser Asp Ala Val Gly Pro Arg Ser
 65                  70                  75                  80

Gly Phe Pro Pro Gln Pro Ser Leu Pro Leu Cys Arg Ala Pro Gly Gln
                 85                  90                  95

Leu Gly Glu Lys Gln Leu Pro Ser Ser Thr Ser Asp Asp Arg Val Lys
            100                 105                 110

Asp Glu Phe Ser Asp Leu Ser Glu Gly Asp Val Leu Ser Glu Asp Glu
        115                 120                 125

Asn Asp Lys Lys Gln Asn Ala Gln Ser Ser Asp Glu Ser Phe Glu Pro
    130                 135                 140

Tyr Pro Glu Arg Lys Val Ser Gly Lys Lys Ser Glu Ser Lys Glu Ala
145                 150                 155                 160

Lys Lys Ser Glu Glu Pro Arg Ile Arg Lys Lys Pro Gly Pro Lys Pro
                165                 170                 175
```

```
Gly Trp Lys Lys Lys Leu Arg Cys Glu Arg Glu Glu Leu Pro Thr Ile
            180                 185                 190

Tyr Lys Cys Pro Tyr Gln Gly Cys Thr Ala Val Tyr Arg Gly Ala Asp
        195                 200                 205

Gly Met Lys Lys His Ile Lys Glu His His Glu Glu Val Arg Glu Arg
    210                 215                 220

Pro Cys Pro His Pro Gly Cys Asn Lys Val Phe Met Ile Asp Arg Tyr
225                 230                 235                 240

Leu Gln Arg His Val Lys Leu Ile His Thr Glu Val Arg Asn Tyr Ile
                245                 250                 255

Cys Asp Glu Cys Gly Gln Thr Phe Lys Gln Arg Lys His Leu Leu Val
            260                 265                 270

His Gln Met Arg His Ser Gly Ala Lys Pro Leu Gln Cys Glu Val Cys
        275                 280                 285

Gly Phe Gln Cys Arg Gln Arg Ala Ser Leu Lys Tyr His Met Thr Lys
    290                 295                 300

His Lys Ala Glu Thr Glu Leu Asp Phe Ala Cys Asp Gln Cys Gly Arg
305                 310                 315                 320

Arg Phe Glu Lys Ala His Asn Leu Asn Val His Met Ser Met Val His
                325                 330                 335

Pro Leu Thr Gln Thr Gln Asp Lys Ala Leu Pro Leu Glu Ala Glu Pro
            340                 345                 350

Pro Pro Gly Pro Pro Ser Pro Ser Val Thr Thr Glu Gly Gln Ala Val
        355                 360                 365

Lys Pro Glu Pro Thr
    370
```

<210> 31
<211> 186
<212> DNA
<213> Homo sapiens

<400> 31
acggatggta ccgattgttt taagaaaatg gcagacaaac cagacgtggg gggaatcgcc 60
agcttcaata gggccaagct gaagaaaacg gagacgcagg agaagaacac cctgccgacc 120
aaagagacca ctgggcagaa gcggagtgaa atttcctaag agcccggagg atttcctgcc 180
ctcgtc 186

<210> 32
<211> 43
<212> PRT
<213> Homo sapiens

<400> 32
Met Ala Asp Lys Pro Asp Val Gly Gly Ile Ala Ser Phe Asn Arg Ala
1 5 10 15

Lys Leu Lys Lys Thr Glu Thr Gln Glu Lys Asn Thr Leu Pro Thr Lys
20 25 30

Glu Thr Thr Gly Gln Lys Arg Ser Glu Ile Ser
35 40

<210> 33
<211> 173
<212> DNA
<213> Homo sapiens

<400> 33
cggatggtac cgattgtttt aagaaaatgg cagacaaacc agacgtgggg ggaatcgcca 60
gcttcaatag ggccaagctg aagaaaacgg agacgcagga gaagaacacc ctgccgacca 120
aagagaccac tgggcagaag cggagtgaaa tttcctaaga gcccggagga ttt 173

<210> 34
<211> 43
<212> PRT
<213> Homo sapiens

<400> 34
Met Ala Asp Lys Pro Asp Val Gly Gly Ile Ala Ser Phe Asn Arg Ala
1 5 10 15

Lys Leu Lys Lys Thr Glu Thr Gln Glu Lys Asn Thr Leu Pro Thr Lys
20 25 30

Glu Thr Thr Gly Gln Lys Arg Ser Glu Ile Ser
35 40

<210> 35
<211> 720
<212> PRT
<213> Mus musculus

<400> 35
Met Ala Ser Gly Asn Arg Lys Val Thr Ile Gln Leu Val Asp Asp Gly
1 5 10 15

Ala Gly Thr Gly Ala Gly Gly Pro Gln Leu Phe Lys Gly Gln Asn Tyr
20 25 30

Glu Ala Ile Arg Arg Ala Cys Leu Asp Ser Gly Ile Leu Phe Arg Asp
35 40 45

Pro Cys Phe Pro Ala Gly Pro Asp Ala Leu Gly Tyr Asp Lys Leu Gly
50 55 60

Pro Asp Ser Glu Lys Ala Lys Gly Val Glu Trp Lys Arg Pro His Glu

```
 65                  70                  75                  80

Phe Cys Ala Glu Pro Gln Phe Ile Cys Glu Asp Met Ser Arg Thr Asp
                 85                  90                  95

Val Cys Gln Gly Ser Leu Gly Asn Cys Trp Leu Leu Ala Ala Ala Ala
            100                 105                 110

Ser Leu Thr Leu Tyr Pro Arg Leu Leu Tyr Arg Val Val Pro Pro Gly
        115                 120                 125

Gln Gly Phe Gln Asp Gly Tyr Ala Gly Val Phe His Phe Gln Leu Trp
    130                 135                 140

Gln Phe Gly Arg Trp Val Asp Val Val Val Asp Asp Lys Leu Pro Val
145                 150                 155                 160

Arg Glu Gly Lys Leu Met Phe Val Arg Ser Glu Gln Arg Asn Glu Phe
                165                 170                 175

Trp Ala Pro Leu Leu Glu Lys Ala Tyr Ala Lys Leu His Gly Ser Tyr
            180                 185                 190

Glu Val Met Arg Gly Gly His Met Asn Glu Ala Phe Val Asp Phe Thr
        195                 200                 205

Gly Gly Val Gly Glu Val Leu Tyr Leu Arg Gln Asn Thr Pro Gly Val
    210                 215                 220

Phe Ala Ala Leu Arg His Ala Leu Ala Lys Glu Ser Leu Val Gly Ala
225                 230                 235                 240

Thr Ala Leu Ser Asp Arg Gly Glu Ile Arg Thr Asp Glu Gly Leu Val
                245                 250                 255

Lys Gly His Ala Tyr Ser Val Thr Gly Thr His Lys Met Ser Leu Gly
            260                 265                 270

Phe Thr Lys Val Arg Leu Leu Arg Leu Arg Asn Pro Trp Gly Arg Val
        275                 280                 285

Glu Trp Ser Gly Pro Trp Ser Asp Ser Cys Pro Arg Trp Asp Met Leu
    290                 295                 300

Pro Ser Glu Trp Arg Asp Ala Leu Leu Val Lys Lys Glu Asp Gly Glu
305                 310                 315                 320

Phe Trp Met Glu Leu Gln Asp Phe Leu Thr His Phe Asn Thr Val Gln
                325                 330                 335

Ile Cys Ser Leu Ser Pro Glu Val Leu Gly Pro Ser Pro Ala Gly Gly
            340                 345                 350

Gly Trp His Ile His Ile Phe Gln Gly Arg Trp Val Arg Gly Phe Asn
        355                 360                 365

Ser Gly Gly Ser Gln Pro Ser Ala Glu Asn Phe Trp Thr Asn Pro Gln
```

```
    370                 375                 380

Phe Arg Leu Thr Leu Leu Glu Pro Asp Glu Glu Glu Asp Asp Asp Asp
385                 390                 395                 400

Glu Glu Gly Pro Trp Gly Gly Trp Gly Ala Ala Gly Ala Arg Gly Pro
                405                 410                 415

Ala Arg Gly Gly Arg Val Pro Lys Cys Thr Val Leu Leu Ser Leu Ile
            420                 425                 430

Gln Arg Asn Arg Arg Cys Leu Arg Ala Lys Gly Leu Thr Tyr Leu Thr
        435                 440                 445

Val Gly Phe His Val Phe Gln Ile Pro Glu Glu Leu Leu Asp Leu Trp
    450                 455                 460

Asp Ser Pro Arg Ser Arg Ala Leu Leu Pro Gly Leu Leu Arg Ala Asp
465                 470                 475                 480

Arg Ser Val Phe Cys Ala Arg Arg Asp Val Ser Arg Arg Cys Arg Leu
                485                 490                 495

Pro Pro Gly His Tyr Leu Val Val Pro Ser Ala Ser Arg Val Gly Asp
            500                 505                 510

Glu Ala Asp Phe Thr Leu Arg Ile Phe Ser Glu Arg Ser His Thr Ala
        515                 520                 525

Val Glu Ile Asp Asp Val Ile Ser Ala Asp Leu Asp Ala Leu Gln Ala
    530                 535                 540

Pro Tyr Lys Pro Leu Glu Leu Glu Leu Ala Gln Leu Phe Leu Glu Leu
545                 550                 555                 560

Ala Gly Glu Glu Glu Glu Leu Asn Ala Leu Gln Leu Gln Thr Leu Ile
                565                 570                 575

Ser Ile Ala Leu Glu Pro Ala Arg Ala Asn Thr Arg Thr Pro Gly Glu
            580                 585                 590

Ile Gly Leu Arg Thr Cys Glu Gln Leu Val Gln Cys Phe Gly Arg Gly
        595                 600                 605

Gln Arg Leu Ser Leu His His Phe Gln Glu Leu Trp Gly His Leu Met
    610                 615                 620

Ser Trp Gln Ala Thr Phe Asp Lys Phe Asp Glu Asp Ala Ser Gly Thr
625                 630                 635                 640

Met Asn Ser Cys Glu Leu Arg Leu Ala Leu Thr Ala Ala Gly Phe His
                645                 650                 655

Leu Asn Asn Gln Leu Thr Gln Ser Leu Thr Ser Arg Tyr Arg Asp Ser
            660                 665                 670

Arg Leu Arg Val Asp Phe Glu Arg Phe Val Gly Cys Ala Ala Arg Leu
```

```
        675                 680                 685

Thr Cys Ile Phe Arg His Cys Cys Gln His Leu Asp Gly Gly Glu Gly
    690                 695                 700

Val Val Cys Leu Thr His Lys Gln Trp Ser Glu Val Ala Thr Phe Ser
705                 710                 715                 720
```

<210> 36
<211> 720
<212> PRT
<213> Mus musculus

<400> 36

```
Met Ala Ser Gly Asn Arg Lys Val Thr Ile Gln Leu Val Asp Asp Gly
  1               5                  10                  15

Ala Gly Thr Gly Ala Gly Gly Pro Gln Leu Phe Lys Gly Gln Asn Tyr
             20                  25                  30

Glu Ala Ile Arg Arg Ala Cys Leu Asp Ser Gly Ile Leu Phe Arg Asp
         35                  40                  45

Pro Cys Phe Pro Ala Gly Pro Asp Ala Leu Gly Tyr Asp Lys Leu Gly
     50                  55                  60

Pro Asp Ser Glu Lys Ala Lys Gly Val Glu Trp Lys Arg Pro His Glu
 65                  70                  75                  80

Phe Cys Ala Glu Pro Gln Phe Ile Cys Glu Asp Met Ser Arg Thr Asp
                 85                  90                  95

Val Cys Gln Gly Ser Leu Gly Asn Cys Trp Leu Leu Ala Ala Ala Ala
            100                 105                 110

Ser Leu Thr Leu Tyr Pro Arg Leu Leu Tyr Arg Val Val Pro Pro Gly
        115                 120                 125

Gln Gly Phe Gln Asp Gly Tyr Ala Gly Val Phe His Phe Gln Leu Trp
    130                 135                 140

Gln Phe Gly Arg Trp Val Asp Val Val Val Asp Asp Lys Leu Pro Val
145                 150                 155                 160

Arg Glu Gly Lys Leu Met Phe Val Arg Ser Glu Gln Arg Asn Glu Phe
                165                 170                 175

Trp Ala Pro Leu Leu Glu Lys Ala Tyr Ala Lys Leu His Gly Ser Tyr
            180                 185                 190

Glu Val Met Arg Gly Gly His Met Asn Glu Ala Phe Val Asp Phe Thr
        195                 200                 205
```

```
Gly Gly Val Gly Glu Val Leu Tyr Leu Arg Gln Asn Thr Pro Gly Val
    210                 215                 220

Phe Ala Ala Leu Arg His Ala Leu Ala Lys Glu Ser Leu Val Gly Ala
225                 230                 235                 240

Thr Ala Leu Ser Asp Arg Gly Glu Ile Arg Thr Asp Glu Gly Leu Val
                245                 250                 255

Lys Gly His Ala Tyr Ser Val Thr Gly Thr His Lys Met Ser Leu Gly
            260                 265                 270

Phe Thr Lys Val Arg Leu Leu Arg Leu Arg Asn Pro Trp Gly Arg Val
        275                 280                 285

Glu Trp Ser Gly Pro Trp Ser Asp Ser Cys Pro Arg Trp Asp Met Leu
    290                 295                 300

Pro Ser Glu Trp Arg Asp Ala Leu Leu Val Lys Lys Glu Asp Gly Glu
305                 310                 315                 320

Phe Trp Met Glu Leu Gln Asp Phe Leu Thr His Phe Asn Thr Val Gln
                325                 330                 335

Ile Cys Ser Leu Ser Pro Glu Val Leu Gly Pro Ser Pro Ala Gly Gly
            340                 345                 350

Gly Trp His Ile His Ile Phe Gln Gly Arg Trp Val Arg Gly Phe Asn
        355                 360                 365

Ser Gly Gly Ser Gln Pro Ser Ala Glu Asn Phe Trp Thr Asn Pro Gln
    370                 375                 380

Phe Arg Leu Thr Leu Leu Glu Pro Asp Glu Glu Glu Asp Asp Asp Asp
385                 390                 395                 400

Glu Glu Gly Pro Trp Gly Gly Trp Gly Ala Ala Gly Ala Arg Gly Pro
                405                 410                 415

Ala Arg Gly Gly Arg Val Pro Lys Cys Thr Val Leu Leu Ser Leu Ile
            420                 425                 430

Gln Arg Asn Arg Arg Cys Leu Arg Ala Lys Gly Leu Thr Tyr Leu Thr
        435                 440                 445

Val Gly Phe His Val Phe Gln Ile Pro Glu Glu Leu Leu Asp Leu Trp
    450                 455                 460

Asp Ser Pro Arg Ser Arg Ala Leu Leu Pro Gly Leu Leu Arg Ala Asp
465                 470                 475                 480

Arg Ser Val Phe Cys Ala Arg Arg Asp Val Ser Arg Arg Cys Arg Leu
                485                 490                 495

Pro Pro Gly His Tyr Leu Val Val Pro Ser Ala Ser Arg Val Gly Asp
            500                 505                 510
```

```
Glu Ala Asp Phe Thr Leu Arg Ile Phe Ser Glu Arg Ser His Thr Ala
        515                 520                 525

Val Glu Ile Asp Asp Val Ile Ser Ala Asp Leu Asp Ala Leu Gln Ala
    530                 535                 540

Pro Tyr Lys Pro Leu Glu Leu Glu Leu Ala Gln Leu Phe Leu Glu Leu
545                 550                 555                 560

Ala Gly Glu Glu Glu Glu Leu Asn Ala Leu Gln Leu Gln Thr Leu Ile
                565                 570                 575

Ser Ile Ala Leu Glu Pro Ala Arg Ala Asn Thr Arg Thr Pro Gly Glu
            580                 585                 590

Ile Gly Leu Arg Thr Cys Glu Gln Leu Val Gln Cys Phe Gly Arg Gly
        595                 600                 605

Gln Arg Leu Ser Leu His His Phe Gln Glu Leu Trp Gly His Leu Met
    610                 615                 620

Ser Trp Gln Ala Thr Phe Asp Lys Phe Asp Glu Asp Ala Ser Gly Thr
625                 630                 635                 640

Met Asn Ser Cys Glu Leu Arg Leu Ala Leu Thr Ala Ala Gly Phe His
                645                 650                 655

Leu Asn Asn Gln Leu Thr Gln Ser Leu Thr Ser Arg Tyr Arg Asp Ser
            660                 665                 670

Arg Leu Arg Val Asp Phe Glu Arg Phe Val Gly Cys Ala Ala Arg Leu
        675                 680                 685

Thr Cys Ile Phe Arg His Cys Cys Gln His Leu Asp Gly Gly Glu Gly
    690                 695                 700

Val Val Cys Leu Thr His Lys Gln Trp Ser Glu Val Ala Thr Phe Ser
705                 710                 715                 720
```

<210> 37
<211> 720
<212> PRT
<213> Mus musculus

<400> 37

```
Met Ala Ser Gly Asn Arg Lys Val Thr Ile Gln Leu Val Asp Asp Gly
  1               5                  10                  15

Ala Gly Thr Gly Ala Gly Gly Pro Gln Leu Phe Lys Gly Gln Asn Tyr
             20                  25                  30

Glu Ala Ile Arg Arg Ala Cys Leu Asp Ser Gly Ile Leu Phe Arg Asp
         35                  40                  45
```

```
Pro Cys Phe Pro Ala Gly Pro Asp Ala Leu Gly Tyr Asp Lys Leu Gly
     50                  55                  60

Pro Asp Ser Glu Lys Ala Lys Gly Val Glu Trp Lys Arg Pro His Glu
 65                  70                  75                  80

Phe Cys Ala Glu Pro Gln Phe Ile Cys Glu Asp Met Ser Arg Thr Asp
                85                  90                  95

Val Cys Gln Gly Ser Leu Gly Asn Cys Trp Leu Leu Ala Ala Ala Ala
            100                 105                 110

Ser Leu Thr Leu Tyr Pro Arg Leu Leu Tyr Arg Val Val Pro Pro Gly
        115                 120                 125

Gln Gly Phe Gln Asp Gly Tyr Ala Gly Val Phe His Phe Gln Leu Trp
    130                 135                 140

Gln Phe Gly Arg Trp Val Asp Val Val Val Asp Asp Lys Leu Pro Val
145                 150                 155                 160

Arg Glu Gly Lys Leu Met Phe Val Arg Ser Glu Gln Arg Asn Glu Phe
                165                 170                 175

Trp Ala Pro Leu Leu Glu Lys Ala Tyr Ala Lys Leu His Gly Ser Tyr
            180                 185                 190

Glu Val Met Arg Gly Gly His Met Asn Glu Ala Phe Val Asp Phe Thr
        195                 200                 205

Gly Gly Val Gly Glu Val Leu Tyr Leu Arg Gln Asn Thr Pro Gly Val
    210                 215                 220

Phe Ala Ala Leu Arg His Ala Leu Ala Lys Glu Ser Leu Val Gly Ala
225                 230                 235                 240

Thr Ala Leu Ser Asp Arg Gly Glu Ile Arg Thr Asp Glu Gly Leu Val
                245                 250                 255

Lys Gly His Ala Tyr Ser Val Thr Gly Thr His Lys Met Ser Leu Gly
            260                 265                 270

Phe Thr Lys Val Arg Leu Leu Arg Leu Arg Asn Pro Trp Gly Arg Val
        275                 280                 285

Glu Trp Ser Gly Pro Trp Ser Asp Ser Cys Pro Arg Trp Asp Met Leu
    290                 295                 300

Pro Ser Glu Trp Arg Asp Ala Leu Leu Val Lys Lys Glu Asp Gly Glu
305                 310                 315                 320

Phe Trp Met Glu Leu Gln Asp Phe Leu Thr His Phe Asn Thr Val Gln
                325                 330                 335

Ile Cys Ser Leu Ser Pro Glu Val Leu Gly Pro Ser Pro Ala Gly Gly
            340                 345                 350
```

```
Gly Trp His Ile His Ile Phe Gln Gly Arg Trp Val Arg Gly Phe Asn
        355                 360                 365

Ser Gly Gly Ser Gln Pro Ser Ala Glu Asn Phe Trp Thr Asn Pro Gln
    370                 375                 380

Phe Arg Leu Thr Leu Leu Glu Pro Asp Glu Glu Glu Asp Asp Asp Asp
385                 390                 395                 400

Glu Glu Gly Pro Trp Gly Gly Trp Gly Ala Ala Gly Ala Arg Gly Pro
                405                 410                 415

Ala Arg Gly Gly Arg Val Pro Lys Cys Thr Val Leu Leu Ser Leu Ile
            420                 425                 430

Gln Arg Asn Arg Arg Cys Leu Arg Ala Lys Gly Leu Thr Tyr Leu Thr
        435                 440                 445

Val Gly Phe His Val Phe Gln Ile Pro Glu Glu Leu Leu Asp Leu Trp
    450                 455                 460

Asp Ser Pro Arg Ser Arg Ala Leu Leu Pro Gly Leu Leu Arg Ala Asp
465                 470                 475                 480

Arg Ser Val Phe Cys Ala Arg Arg Asp Val Ser Arg Arg Cys Arg Leu
                485                 490                 495

Pro Pro Gly His Tyr Leu Val Val Pro Ser Ala Ser Arg Val Gly Asp
            500                 505                 510

Glu Ala Asp Phe Thr Leu Arg Ile Phe Ser Glu Arg Ser His Thr Ala
        515                 520                 525

Val Glu Ile Asp Asp Val Ile Ser Ala Asp Leu Asp Ala Leu Gln Ala
    530                 535                 540

Pro Tyr Lys Pro Leu Glu Leu Glu Leu Ala Gln Leu Phe Leu Glu Leu
545                 550                 555                 560

Ala Gly Glu Glu Glu Glu Leu Asn Ala Leu Gln Leu Gln Thr Leu Ile
                565                 570                 575

Ser Ile Ala Leu Glu Pro Ala Arg Ala Asn Thr Arg Thr Pro Gly Glu
            580                 585                 590

Ile Gly Leu Arg Thr Cys Glu Gln Leu Val Gln Cys Phe Gly Arg Gly
        595                 600                 605

Gln Arg Leu Ser Leu His His Phe Gln Glu Leu Trp Gly His Leu Met
    610                 615                 620

Ser Trp Gln Ala Thr Phe Asp Lys Phe Asp Glu Asp Ala Ser Gly Thr
625                 630                 635                 640

Met Asn Ser Cys Glu Leu Arg Leu Ala Leu Thr Ala Ala Gly Phe His
                645                 650                 655
```

```
Leu Asn Asn Gln Leu Thr Gln Ser Leu Thr Ser Arg Tyr Arg Asp Ser
            660                 665                 670

Arg Leu Arg Val Asp Phe Glu Arg Phe Val Gly Cys Ala Ala Arg Leu
        675                 680                 685

Thr Cys Ile Phe Arg His Cys Cys Gln His Leu Asp Gly Gly Glu Gly
    690                 695                 700

Val Val Cys Leu Thr His Lys Gln Trp Ser Glu Val Ala Thr Phe Ser
705                 710                 715                 720
```

<210> 38
<211> 449
<212> PRT
<213> Mus musculus

<400> 38

```
Met Ala Ser Gly Asn Arg Lys Val Thr Ile Gln Leu Val Asp Asp Gly
  1               5                  10                  15

Ala Gly Thr Gly Ala Gly Gly Pro Gln Leu Phe Lys Gly Gln Asn Tyr
             20                  25                  30

Glu Ala Ile Arg Arg Ala Cys Leu Asp Ser Gly Ile Leu Phe Arg Asp
         35                  40                  45

Pro Cys Phe Pro Ala Gly Pro Asp Ala Leu Gly Tyr Asp Lys Leu Gly
     50                  55                  60

Pro Asp Ser Glu Lys Ala Lys Gly Val Glu Trp Lys Arg Pro His Glu
 65                  70                  75                  80

Phe Cys Ala Glu Pro Gln Phe Ile Cys Glu Asp Met Ser Arg Thr Asp
                 85                  90                  95

Val Cys Gln Gly Ser Leu Gly Asn Cys Trp Leu Leu Ala Ala Ala Ala
            100                 105                 110

Ser Leu Thr Leu Tyr Pro Arg Leu Leu Tyr Arg Val Val Pro Pro Gly
        115                 120                 125

Gln Gly Phe Gln Asp Gly Tyr Ala Gly Val Phe His Phe Gln Leu Trp
    130                 135                 140

Gln Phe Gly Arg Trp Val Asp Val Val Val Asp Asp Lys Leu Pro Val
145                 150                 155                 160

Arg Glu Gly Lys Leu Met Phe Val Arg Ser Glu Gln Arg Asn Glu Phe
                165                 170                 175

Trp Ala Pro Leu Leu Glu Lys Ala Tyr Ala Lys Leu His Gly Ser Tyr
```

```
            180                 185                 190

Glu Val Met Arg Gly Gly His Met Asn Glu Ala Phe Val Asp Phe Thr
        195                 200                 205

Gly Gly Val Gly Glu Val Leu Tyr Leu Arg Gln Asn Thr Pro Gly Val
    210                 215                 220

Phe Ala Ala Leu Arg His Ala Leu Ala Lys Glu Ser Leu Val Gly Ala
225                 230                 235                 240

Thr Ala Leu Ser Asp Arg Gly Glu Ile Arg Thr Asp Glu Gly Leu Val
                245                 250                 255

Lys Gly His Ala Tyr Ser Val Thr Gly Thr His Lys Met Ser Leu Gly
            260                 265                 270

Phe Thr Lys Val Arg Leu Leu Arg Leu Arg Asn Pro Trp Gly Arg Val
        275                 280                 285

Glu Trp Ser Gly Pro Trp Ser Asp Ser Cys Pro Arg Trp Asp Met Leu
    290                 295                 300

Pro Ser Glu Trp Arg Asp Ala Leu Leu Val Lys Lys Glu Asp Gly Glu
305                 310                 315                 320

Phe Trp Met Glu Leu Gln Asp Phe Leu Thr His Phe Asn Thr Val Gln
                325                 330                 335

Ile Cys Ser Leu Leu Pro Thr Pro Gly Trp Arg Arg Gly Gly Arg Leu
            340                 345                 350

Pro Asp Pro Gln Thr Val Val Gly Gly Gly Tyr Leu Leu Ile Gly Leu
        355                 360                 365

Lys Leu Arg Glu Val Thr Leu Leu Pro Asp Ser Leu Ser Gln Arg Trp
    370                 375                 380

Trp Leu Cys Asn Pro Gly Arg Pro His Lys Cys Trp Asp Tyr Glu Leu
385                 390                 395                 400

Glu Pro Ser Gln Thr Glu Leu Pro Pro Phe Leu Leu Lys Pro Leu His
                405                 410                 415

Val Ser Pro Cys Leu Glu Arg Gly Thr Thr Pro Thr Gln Ala Leu Gly
            420                 425                 430

Trp Trp Ala Leu Pro Ala Pro Trp Gly Met Asn Arg Asp Ala Gly Arg
        435                 440                 445

Arg
```

<210> 39
<211> 702
<212> PRT

<213> Homo sapiens

<400> 39

```
Met Val Ala His Ile Asn Asn Ser Arg Leu Lys Ala Lys Gly Val Gly
  1               5                  10                  15

Gln His Asp Asn Ala Gln Asn Phe Gly Asn Gln Ser Phe Glu Glu Leu
             20                  25                  30

Arg Ala Ala Cys Leu Arg Lys Gly Glu Leu Phe Glu Asp Pro Leu Phe
         35                  40                  45

Pro Ala Glu Pro Ser Ser Leu Gly Phe Lys Asp Leu Gly Pro Asn Ser
     50                  55                  60

Lys Asn Val Gln Asn Ile Ser Trp Gln Arg Pro Lys Asp Ile Ile Asn
 65                  70                  75                  80

Asn Pro Leu Phe Ile Met Asp Gly Ile Ser Pro Thr Asp Ile Cys Gln
                 85                  90                  95

Gly Ile Leu Gly Asp Cys Trp Leu Leu Ala Ala Ile Gly Ser Leu Thr
            100                 105                 110

Thr Cys Pro Lys Leu Leu Tyr Arg Val Val Pro Arg Gly Gln Ser Phe
        115                 120                 125

Lys Lys Asn Tyr Ala Gly Ile Phe His Phe Gln Ile Trp Gln Phe Gly
    130                 135                 140

Gln Trp Val Asn Val Val Val Asp Asp Arg Leu Pro Thr Lys Asn Asp
145                 150                 155                 160

Lys Leu Val Phe Val His Ser Thr Glu Arg Ser Glu Phe Trp Ser Ala
                165                 170                 175

Leu Leu Glu Lys Ala Tyr Ala Lys Leu Ser Gly Ser Tyr Glu Ala Leu
            180                 185                 190

Ser Gly Gly Ser Thr Met Glu Gly Leu Glu Asp Phe Thr Gly Gly Val
        195                 200                 205

Ala Gln Ser Phe Gln Leu Gln Arg Pro Pro Gln Asn Leu Leu Arg Leu
    210                 215                 220

Leu Arg Lys Ala Val Glu Arg Ser Ser Leu Met Gly Cys Ser Ile Glu
225                 230                 235                 240

Val Thr Ser Asp Ser Glu Leu Glu Ser Met Thr Asp Lys Met Leu Val
                245                 250                 255

Arg Gly His Ala Tyr Ser Val Thr Gly Leu Gln Asp Val His Tyr Arg
            260                 265                 270

Gly Lys Met Glu Thr Leu Ile Arg Val Arg Asn Pro Trp Gly Arg Ile
        275                 280                 285
```

```
Glu Trp Asn Gly Ala Trp Ser Asp Ser Ala Arg Glu Trp Glu Glu Val
    290                 295                 300

Ala Ser Asp Ile Gln Met Gln Leu Leu His Lys Thr Glu Asp Gly Glu
305                 310                 315                 320

Phe Trp Met Ser Tyr Gln Asp Phe Leu Asn Asn Phe Thr Leu Leu Glu
                325                 330                 335

Ile Cys Asn Leu Thr Pro Asp Thr Leu Ser Gly Asp Tyr Lys Ser Tyr
            340                 345                 350

Trp His Thr Thr Phe Tyr Glu Gly Ser Trp Arg Arg Gly Ser Ser Ala
        355                 360                 365

Gly Gly Cys Arg Asn His Pro Gly Thr Phe Trp Thr Asn Pro Gln Phe
    370                 375                 380

Lys Ile Ser Leu Pro Glu Gly Asp Asp Pro Glu Asp Asp Ala Glu Gly
385                 390                 395                 400

Asn Val Val Val Cys Thr Cys Leu Val Ala Leu Met Gln Lys Asn Trp
                405                 410                 415

Arg His Ala Arg Gln Gln Gly Ala Gln Leu Gln Thr Ile Gly Phe Val
            420                 425                 430

Leu Tyr Ala Val Pro Lys Glu Phe Gln Asn Ile Gln Asp Val His Leu
        435                 440                 445

Lys Lys Glu Phe Phe Thr Lys Tyr Gln Asp His Gly Phe Ser Glu Ile
    450                 455                 460

Phe Thr Asn Ser Arg Glu Val Ser Ser Gln Leu Arg Leu Pro Pro Gly
465                 470                 475                 480

Glu Tyr Ile Ile Ile Pro Ser Thr Phe Glu Pro His Arg Asp Ala Asp
                485                 490                 495

Phe Leu Leu Arg Val Phe Thr Glu Lys His Ser Glu Ser Trp Glu Leu
            500                 505                 510

Asp Glu Val Asn Tyr Ala Glu Gln Leu Gln Glu Glu Lys Val Ser Glu
        515                 520                 525

Asp Asp Met Asp Gln Asp Phe Leu His Leu Phe Lys Ile Val Ala Gly
    530                 535                 540

Glu Gly Lys Glu Ile Gly Val Tyr Glu Leu Gln Arg Leu Leu Asn Arg
545                 550                 555                 560

Met Ala Ile Lys Phe Lys Ser Phe Lys Thr Lys Gly Phe Gly Leu Asp
                565                 570                 575

Ala Cys Arg Cys Met Ile Asn Leu Met Asp Lys Asp Gly Ser Gly Lys
            580                 585                 590
```

```
Leu Gly Leu Leu Glu Phe Lys Ile Leu Trp Lys Lys Leu Lys Lys Trp
        595                 600                 605

Met Asp Ile Phe Arg Glu Cys Asp Gln Asp His Ser Gly Thr Leu Asn
    610                 615                 620

Ser Tyr Glu Met Arg Leu Val Ile Glu Lys Ala Gly Ile Lys Leu Asn
625                 630                 635                 640

Asn Lys Val Met Gln Val Leu Val Ala Arg Tyr Ala Asp Asp Asp Leu
                645                 650                 655

Ile Ile Asp Phe Asp Ser Phe Ile Ser Cys Phe Leu Arg Leu Lys Thr
            660                 665                 670

Met Phe Thr Phe Phe Leu Thr Met Asp Pro Lys Asn Thr Gly His Ile
        675                 680                 685

Cys Leu Ser Leu Glu Gln Trp Leu Gln Met Thr Met Trp Gly
    690                 695                 700


<210> 40
<211> 576
<212> PRT
<213> Homo sapiens

<400> 40
Met Ser Thr Ser Ser Leu Arg Arg Gln Met Lys Asn Ile Val His Asn
  1               5                  10                  15

Tyr Ser Glu Ala Glu Ile Lys Val Arg Glu Ala Thr Ser Asn Asp Pro
             20                  25                  30

Trp Gly Pro Ser Ser Ser Leu Met Ser Glu Ile Ala Asp Leu Thr Tyr
         35                  40                  45

Asn Val Val Ala Phe Ser Glu Ile Met Ser Met Ile Trp Lys Arg Leu
     50                  55                  60

Asn Asp His Gly Lys Asn Trp Arg His Val Tyr Lys Ala Met Thr Leu
 65                  70                  75                  80

Met Glu Tyr Leu Ile Lys Thr Gly Ser Glu Arg Val Ser Gln Gln Cys
                 85                  90                  95

Lys Glu Asn Met Tyr Ala Val Gln Thr Leu Lys Asp Phe Gln Tyr Val
            100                 105                 110

Asp Arg Asp Gly Lys Asp Gln Gly Val Asn Val Arg Glu Lys Ala Lys
        115                 120                 125

Gln Leu Val Ala Leu Leu Arg Asp Glu Asp Arg Leu Arg Glu Glu Arg
    130                 135                 140

Ala His Ala Leu Lys Thr Lys Glu Lys Leu Ala Gln Thr Ala Thr Ala
145                 150                 155                 160
```

```
Ser Ser Ala Ala Val Gly Ser Gly Pro Pro Pro Glu Ala Glu Gln Ala
                165                 170                 175

Trp Pro Gln Ser Ser Gly Glu Glu Glu Leu Gln Leu Gln Leu Ala Leu
            180                 185                 190

Ala Met Ser Lys Glu Glu Ala Asp Gln Pro Pro Ser Cys Gly Pro Glu
        195                 200                 205

Asp Asp Ala Gln Leu Gln Leu Ala Leu Ser Leu Ser Arg Glu Glu His
    210                 215                 220

Asp Lys Glu Glu Arg Ile Arg Arg Gly Asp Asp Leu Arg Leu Gln Met
225                 230                 235                 240

Ala Ile Glu Glu Ser Lys Arg Glu Thr Gly Gly Lys Glu Glu Ser Ser
                245                 250                 255

Leu Met Asp Leu Ala Asp Val Phe Thr Ala Pro Ala Pro Ala Pro Thr
            260                 265                 270

Thr Asp Pro Trp Gly Gly Pro Ala Pro Met Ala Ala Ala Val Pro Thr
        275                 280                 285

Ala Ala Pro Thr Ser Asp Pro Trp Gly Gly Pro Pro Val Pro Pro Ala
    290                 295                 300

Ala Asp Pro Trp Gly Gly Pro Ala Pro Thr Pro Ala Ser Gly Asp Pro
305                 310                 315                 320

Trp Arg Pro Ala Ala Pro Ala Gly Pro Ser Val Asp Pro Trp Gly Gly
                325                 330                 335

Thr Pro Ala Pro Ala Ala Gly Glu Gly Pro Thr Pro Asp Pro Trp Gly
            340                 345                 350

Ser Ser Asp Gly Gly Val Pro Val Ser Gly Pro Ser Ala Ser Asp Pro
        355                 360                 365

Trp Thr Pro Ala Pro Ala Phe Ser Asp Pro Trp Gly Gly Ser Pro Ala
    370                 375                 380

Lys Pro Ser Thr Asn Gly Thr Thr Ala Ala Gly Gly Phe Asp Thr Glu
385                 390                 395                 400

Pro Asp Glu Phe Ser Asp Phe Asp Arg Leu Arg Thr Ala Leu Pro Thr
                405                 410                 415

Ser Gly Ser Ser Ala Gly Glu Leu Glu Leu Leu Ala Gly Glu Val Pro
            420                 425                 430

Ala Arg Ser Pro Gly Ala Phe Asp Met Ser Gly Val Arg Gly Ser Leu
        435                 440                 445

Ala Glu Ala Val Gly Ser Pro Pro Pro Ala Ala Thr Pro Thr Pro Thr
    450                 455                 460
```

```
Pro Pro Thr Arg Lys Thr Pro Glu Ser Phe Leu Gly Pro Asn Ala Ala
465                 470                 475                 480

Leu Val Asp Leu Asp Ser Leu Val Ser Arg Pro Gly Pro Thr Pro Pro
                485                 490                 495

Gly Ala Lys Ala Ser Asn Pro Phe Leu Pro Gly Gly Gly Pro Ala Thr
            500                 505                 510

Gly Pro Ser Val Thr Asn Pro Phe Gln Pro Ala Pro Pro Ala Thr Leu
        515                 520                 525

Thr Leu Asn Gln Leu Arg Leu Ser Pro Val Pro Pro Val Pro Gly Ala
    530                 535                 540

Pro Pro Thr Tyr Ile Ser Pro Leu Gly Gly Gly Pro Gly Leu Pro Pro
545                 550                 555                 560

Met Met Pro Pro Gly Pro Pro Ala Pro Asn Thr Asn Pro Phe Leu Leu
                565                 570                 575
```

<210> 41
<211> 575
<212> PRT
<213> Rattus norvegicus

<400> 41

```
Met Ser Thr Ser Ser Leu Arg Arg Gln Met Lys Asn Ile Val His Asn
  1               5                  10                  15

Tyr Ser Glu Ala Glu Ile Lys Val Arg Glu Ala Thr Ser Asn Asp Pro
             20                  25                  30

Trp Gly Pro Ser Ser Ser Leu Met Ser Glu Ile Ala Asp Leu Thr Tyr
         35                  40                  45

Asn Val Val Ala Phe Ser Glu Ile Met Ser Met Ile Trp Lys Arg Leu
     50                  55                  60

Asn Asp His Gly Lys Asn Trp Arg His Val Tyr Lys Ala Met Thr Leu
 65                  70                  75                  80

Met Glu Tyr Leu Ile Lys Thr Gly Ser Glu Arg Val Ser Gln Gln Cys
                 85                  90                  95

Lys Glu Asn Met Tyr Ala Val Gln Thr Leu Lys Asp Phe Gln Tyr Val
            100                 105                 110

Asp Arg Asp Gly Lys Asp Gln Gly Val Asn Val Arg Glu Lys Ala Lys
        115                 120                 125

Gln Leu Val Ala Leu Leu Arg Asp Glu Asp Arg Leu Arg Glu Glu Arg
```

```
    130                 135                 140

Ala His Ala Leu Lys Thr Lys Glu Lys Leu Ala Gln Thr Ala Thr Ala
145                 150                 155                 160

Ser Ser Ala Ala Val Gly Ser Gly Pro Pro Pro Glu Ala Glu Gln Ala
                165                 170                 175

Trp Pro Gln Ser Ser Gly Glu Glu Glu Leu Gln Leu Gln Leu Ala Leu
            180                 185                 190

Ala Met Ser Lys Glu Glu Ala Asp Gln Pro Pro Ser Cys Gly Pro Glu
        195                 200                 205

Asp Asp Val Gln Leu Gln Leu Ala Leu Ser Leu Ser Arg Glu Glu His
    210                 215                 220

Asp Lys Glu Glu Arg Ile Arg Arg Gly Asp Asp Leu Arg Leu Gln Met
225                 230                 235                 240

Ala Ile Glu Glu Ser Lys Arg Glu Thr Gly Gly Lys Glu Glu Ser Ser
                245                 250                 255

Leu Met Asp Leu Ala Asp Val Phe Thr Thr Pro Ala Pro Pro Gln Ala
            260                 265                 270

Ser Asp Pro Trp Gly Gly Pro Ala Ser Val Pro Thr Ala Val Pro Val
        275                 280                 285

Ala Ala Ala Ala Ser Asp Pro Trp Gly Ala Pro Ala Val Pro Pro Ala
    290                 295                 300

Ala Asp Pro Trp Gly Gly Ala Ala Pro Thr Pro Ala Ser Gly Asp Pro
305                 310                 315                 320

Trp Arg Pro Ala Ala Pro Thr Gly Pro Ser Val Asp Pro Trp Gly Gly
                325                 330                 335

Thr Pro Ala Pro Ala Ala Gly Glu Gly Pro Thr Ser Asp Pro Trp Gly
            340                 345                 350

Ser Ala Asp Gly Gly Ala Pro Val Ser Gly Pro Pro Ser Ser Asp Pro
        355                 360                 365

Trp Ala Pro Ala Pro Ala Phe Ser Asp Pro Trp Gly Gly Ser Pro Ala
    370                 375                 380

Lys Pro Ser Ser Asn Gly Thr Ala Val Gly Gly Phe Asp Thr Glu Pro
385                 390                 395                 400

Asp Glu Phe Ser Asp Phe Asp Arg Leu Arg Thr Ala Leu Pro Thr Ser
                405                 410                 415

Gly Ser Ser Thr Gly Glu Leu Glu Leu Leu Ala Gly Glu Val Pro Ala
            420                 425                 430

Arg Ser Pro Gly Ala Phe Asp Met Ser Gly Val Gly Gly Ser Leu Ala
```

```
        435                 440                 445

Glu Ser Val Gly Ser Pro Pro Pro Ala Ala Thr Pro Thr Pro Thr Pro
    450                 455                 460

Pro Thr Arg Lys Thr Pro Glu Ser Phe Leu Gly Pro Asn Ala Ala Leu
465                 470                 475                 480

Val Asp Leu Asp Ser Leu Val Ser Arg Pro Gly Pro Thr Pro Pro Gly
                485                 490                 495

Ala Lys Ala Ser Asn Pro Phe Leu Pro Ser Gly Ala Pro Ala Thr Gly
            500                 505                 510

Pro Ser Val Thr Asn Pro Phe Gln Pro Ala Pro Pro Ala Thr Leu Thr
        515                 520                 525

Leu Asn Gln Leu Arg Leu Ser Pro Val Pro Pro Val Pro Gly Ala Pro
    530                 535                 540

Pro Thr Tyr Ile Ser Pro Leu Gly Gly Gly Pro Gly Leu Pro Pro Met
545                 550                 555                 560

Met Pro Pro Gly Pro Pro Ala Pro Asn Thr Asn Pro Phe Leu Leu
                565                 570                 575
```

<210> 42
<211> 551
<212> PRT
<213> Homo sapiens

<400> 42

```
Met Ser Thr Ser Ser Leu Arg Arg Gln Met Lys Asn Ile Val His Asn
  1               5                  10                  15

Tyr Ser Glu Ala Glu Ile Lys Val Arg Glu Ala Thr Ser Asn Asp Pro
             20                  25                  30

Trp Gly Pro Ser Ser Ser Leu Met Ser Glu Ile Ala Asp Leu Thr Tyr
         35                  40                  45

Asn Val Val Ala Phe Ser Glu Ile Met Ser Met Ile Trp Lys Arg Leu
     50                  55                  60

Asn Asp His Gly Lys Asn Trp Arg His Val Tyr Lys Ala Met Thr Leu
 65                  70                  75                  80

Met Glu Tyr Leu Ile Lys Thr Gly Ser Glu Arg Val Ser Gln Gln Cys
                 85                  90                  95

Lys Glu Asn Met Tyr Ala Val Gln Thr Leu Lys Asp Phe Gln Tyr Val
            100                 105                 110

Asp Arg Asp Gly Lys Asp Gln Gly Val Asn Val Arg Glu Lys Ala Lys
        115                 120                 125
```

```
Gln Leu Val Ala Leu Leu Arg Asp Glu Asp Arg Leu Arg Glu Glu Arg
    130                 135                 140

Ala His Ala Leu Lys Thr Lys Glu Lys Leu Ala Gln Thr Ala Thr Ala
145                 150                 155                 160

Ser Ser Ala Ala Val Gly Ser Gly Pro Pro Pro Glu Ala Glu Gln Ala
                165                 170                 175

Trp Pro Gln Ser Ser Gly Glu Glu Glu Leu Gln Leu Gln Leu Ala Leu
            180                 185                 190

Ala Met Ser Lys Glu Glu Ala Asp Gln Glu Glu Arg Ile Arg Arg Gly
        195                 200                 205

Asp Asp Leu Arg Leu Gln Met Ala Ile Glu Glu Ser Lys Arg Glu Thr
    210                 215                 220

Gly Gly Lys Glu Glu Ser Ser Leu Met Asp Leu Ala Asp Val Phe Thr
225                 230                 235                 240

Ala Pro Ala Pro Ala Pro Thr Thr Asp Pro Trp Gly Gly Pro Ala Pro
                245                 250                 255

Met Ala Ala Ala Val Pro Thr Ala Ala Pro Thr Ser Asp Pro Trp Gly
            260                 265                 270

Gly Pro Pro Val Pro Pro Ala Ala Asp Pro Trp Gly Gly Pro Ala Pro
        275                 280                 285

Thr Pro Ala Ser Gly Asp Pro Trp Arg Pro Ala Ala Pro Ala Gly Pro
    290                 295                 300

Ser Val Asp Pro Trp Gly Gly Thr Pro Ala Pro Ala Ala Gly Glu Gly
305                 310                 315                 320

Pro Thr Pro Asp Pro Trp Gly Ser Ser Asp Gly Gly Val Pro Val Ser
                325                 330                 335

Gly Pro Ser Ala Ser Asp Pro Trp Thr Pro Ala Pro Ala Phe Ser Asp
            340                 345                 350

Pro Trp Gly Gly Ser Pro Ala Lys Pro Ser Thr Asn Gly Thr Thr Ala
        355                 360                 365

Ala Gly Gly Phe Asp Thr Glu Pro Asp Glu Phe Ser Asp Phe Asp Arg
    370                 375                 380

Leu Arg Thr Ala Leu Pro Thr Ser Gly Ser Ser Ala Gly Glu Leu Glu
385                 390                 395                 400

Leu Leu Ala Gly Glu Val Pro Ala Arg Ser Pro Gly Ala Phe Asp Met
                405                 410                 415

Ser Gly Val Arg Gly Ser Leu Ala Glu Ala Val Gly Ser Pro Pro Pro
            420                 425                 430
```

```
Ala Ala Thr Pro Thr Pro Thr Pro Pro Thr Arg Lys Thr Pro Glu Ser
        435                 440                 445

Phe Leu Gly Pro Asn Ala Ala Leu Val Asp Leu Asp Ser Leu Val Ser
    450                 455                 460

Arg Pro Gly Pro Thr Pro Pro Gly Ala Lys Ala Ser Asn Pro Phe Leu
465                 470                 475                 480

Pro Gly Gly Gly Pro Ala Thr Gly Pro Ser Val Thr Asn Pro Phe Gln
                485                 490                 495

Pro Ala Pro Pro Ala Thr Leu Thr Leu Asn Gln Leu Arg Leu Ser Pro
            500                 505                 510

Val Pro Pro Val Pro Gly Ala Pro Pro Thr Tyr Ile Ser Pro Leu Gly
        515                 520                 525

Gly Gly Pro Gly Leu Pro Pro Met Met Pro Pro Gly Pro Pro Ala Pro
    530                 535                 540

Asn Thr Asn Pro Phe Leu Leu
545                 550
```

<210> 43
<211> 609
<212> PRT
<213> Xenopus laevis

<400> 43

```
Met Lys Asn Ile Val His Asn Tyr Ser Glu Ala Glu Ile Lys Val Arg
  1               5                  10                  15

Glu Ala Thr Ser Asn Asp Pro Trp Gly Pro Ser Ser Ser Leu Met Ser
             20                  25                  30

Glu Ile Ala Asp Leu Thr Tyr Asn Val Val Ala Phe Ser Glu Ile Met
         35                  40                  45

Ser Met Ile Trp Lys Arg Leu Asn Asp His Gly Lys Asn Trp Arg His
     50                  55                  60

Val Tyr Lys Ala Met Thr Leu Met Glu Tyr Leu Ile Lys Thr Gly Ser
 65                  70                  75                  80

Glu Arg Val Ala Gln Gln Cys Lys Glu Asn Ile Tyr Ala Ile Gln Thr
                 85                  90                  95

Leu Lys Asp Phe Gln Tyr Val Asp Arg Asp Gly Lys Asp Gln Gly Val
            100                 105                 110

Asn Val Arg Glu Lys Ala Lys Gln Leu Val Ser Leu Leu Lys Asp Asp
        115                 120                 125

Glu Arg Leu Lys Glu Glu Arg Ala His Ala Leu Lys Thr Lys Glu Lys
    130                 135                 140
```

```
Leu Ala Gln Thr Ser Thr Ser Ser Ser Ala Ser Ser Thr Leu Asn Pro
145                 150                 155                 160

Ala Pro Glu Gly Glu Gln Ala Trp Ser Gln Ser Ser Gly Glu Glu Glu
                165                 170                 175

Leu Gln Leu Gln Leu Ala Leu Ala Met Ser Lys Glu Glu Ala Glu Gln
            180                 185                 190

Val Arg Ala Lys Pro Pro Pro Val Ser Glu Glu Glu Leu Gln Leu Gln
        195                 200                 205

Leu Ala Leu Ser Leu Ser Lys Glu Glu His Asp Lys Glu Glu Arg Ile
    210                 215                 220

Lys Arg Gly Asp Asp Leu Arg Leu Gln Met Ala Leu Glu Glu Ser Arg
225                 230                 235                 240

Lys Gly Ala Pro Ser Lys Gln Glu Glu Gln Ser Ser Leu Met Asp Leu
                245                 250                 255

Ala Asp Val Phe Ser Pro Pro Ala Pro Val Ala Pro Thr Ala Asp Pro
            260                 265                 270

Trp Gly Ala Ser Ala Ala Pro Pro Ala Asp Pro Trp Ala Gly Gly Ala
        275                 280                 285

Thr Pro Ala Ser Val Pro Ala Ala Ala Ala Ala Pro Asp Pro Trp Gly
    290                 295                 300

Gly Pro Pro Val Ala Thr Gly Ser Ser Ser Asp Pro Trp Gly Thr Gly
305                 310                 315                 320

Val Gln Thr Asn Ser Thr Pro Gly Asp Pro Trp Gly Gly Thr Gln Ala
                325                 330                 335

Val Thr Ser Ala Asp Val Lys Ser Val Ser Asp Pro Trp Asn Pro Gly
            340                 345                 350

Gly Ser Gly Ala Thr Thr Ala Ile Pro Ser Asp Pro Trp Ser Ser Ser
        355                 360                 365

Pro Pro Val Ala Gln Ser Val Lys Lys Ala Ala Asp Pro Trp Ala Pro
    370                 375                 380

Pro Ala Ala Ser Phe Ser Asp Pro Trp Gly Gly Ser Pro Ser Lys Pro
385                 390                 395                 400

Asn Thr Asn Gly Thr Met Gly Glu Leu Asp Leu Leu Ala Gly Glu Val
                405                 410                 415

Pro Met Ser Arg Ser Leu Gly Ser Lys Ser Pro Asp Ala Phe Asp Met
            420                 425                 430

Ser Thr Met Ser Gly Ser Leu Cys Asp Phe Ser Asn Pro Thr Arg Lys
        435                 440                 445
```

```
Thr Pro Glu Ser Phe Leu Gly Pro Asn Ala Ala Leu Val Asp Leu Asp
    450                 455                 460

Ser Leu Ile Ser Lys Ser Thr Leu Gln Asn Thr Lys Thr Ser Asn Pro
465                 470                 475                 480

Phe Leu Val Thr Gly Thr Pro Asn Pro Thr Ala Thr Asn Pro Phe Gln
                485                 490                 495

Pro Asn Gln Gln Ser Ser Leu Thr Leu Asn Gln Leu Arg Ser Ser Pro
            500                 505                 510

Val Met Thr Leu Gly Gln Pro Val Thr Pro Ala Gly Gln Thr Pro Ala
        515                 520                 525

Thr Ile Pro Phe Ala Ser Pro Met Met Ser Val Ser Pro Met Ala Pro
    530                 535                 540

Gly Ile Pro Leu Ala Asn Met Ala Pro Met Val Gly Met Gln Pro Met
545                 550                 555                 560

Ala Gly Val Pro Val Gly Thr Leu Ala Pro Gly Val Pro Gly Met Val
                565                 570                 575

Leu Pro Pro Met Met Pro Pro Gln Gln Leu Val Ala Gln Pro Leu Leu
            580                 585                 590

Pro Asn Leu Ser Thr Gln Ala Val Thr Ser Thr Thr Asn Pro Phe Leu
        595                 600                 605

Leu
```

<210> 44
<211> 584
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (475)
<223> Wherein Xaa is any amino acid as defined in the specification.

```
<400> 44
Met Thr Thr Ser Ser Ile Arg Arg Gln Met Lys Asn Ile Val Asn Asn
  1               5                  10                  15

Tyr Ser Glu Ala Glu Ile Lys Val Arg Glu Ala Thr Ser Asn Asp Pro
             20                  25                  30

Trp Gly Pro Ser Ser Ser Leu Met Thr Glu Ile Ala Asp Leu Thr Tyr
         35                  40                  45

Asn Val Val Ala Phe Ser Glu Ile Met Ser Met Val Trp Lys Arg Leu
     50                  55                  60
```

```
Asn Asp His Gly Lys Asn Trp Arg His Val Tyr Lys Ala Leu Thr Leu
 65                  70                  75                  80

Leu Asp Tyr Leu Ile Lys Thr Gly Ser Glu Arg Val Ala Gln Gln Cys
                 85                  90                  95

Arg Glu Asn Ile Phe Ala Ile Gln Thr Leu Lys Asp Phe Gln Tyr Ile
            100                 105                 110

Asp Arg Asp Gly Lys Asp Gln Gly Ile Asn Val Arg Glu Lys Ser Lys
        115                 120                 125

Gln Leu Val Ala Leu Leu Lys Asp Glu Glu Arg Leu Lys Ala Glu Arg
    130                 135                 140

Ala Gln Ala Leu Lys Thr Lys Glu Arg Met Ala Gln Val Ala Thr Gly
145                 150                 155                 160

Met Gly Ser Asn Gln Ile Thr Phe Gly Arg Gly Ser Ser Gln Pro Asn
                165                 170                 175

Leu Ser Thr Ser His Ser Glu Gln Glu Tyr Gly Lys Ala Gly Gly Ser
            180                 185                 190

Pro Ala Ser Tyr His Gly Ser Thr Ser Pro Arg Val Ser Ser Glu Leu
        195                 200                 205

Glu Gln Ala Arg Pro Gln Thr Ser Gly Glu Glu Glu Leu Gln Leu Gln
    210                 215                 220

Leu Ala Leu Ala Met Ser Arg Glu Val Ala Glu Gln Glu Glu Arg Leu
225                 230                 235                 240

Arg Arg Gly Asp Asp Leu Arg Leu Gln Met Ala Leu Glu Glu Ser Arg
                245                 250                 255

Arg Asp Thr Val Lys Ile Pro Lys Lys Lys Glu His Gly Ser Leu Pro
            260                 265                 270

Gln Gln Thr Thr Leu Leu Asp Leu Met Asp Ala Leu Pro Ser Ser Gly
        275                 280                 285

Pro Ala Ala Gln Lys Ala Glu Pro Trp Gly Pro Ser Ala Ser Thr Asn
    290                 295                 300

Gln Thr Asn Pro Trp Gly Gly Pro Ala Ala Pro Ala Ser Thr Ser Asp
305                 310                 315                 320

Pro Trp Pro Ser Phe Gly Thr Lys Pro Ala Ala Ser Ile Asp Pro Trp
                325                 330                 335

Gly Val Pro Thr Gly Ala Thr Ala Gln Ser Val Pro Lys Asn Ser Asp
            340                 345                 350

Pro Trp Ala Ala Ser Gln Gln Pro Ala Ser Ser Ala Gly Lys Arg Ala
        355                 360                 365
```

```
Ser Asp Ala Trp Gly Ala Val Ser Thr Thr Lys Pro Val Ser Val Ser
    370                 375                 380

Gly Ser Phe Glu Leu Phe Ser Asn Leu Asn Gly Thr Ile Lys Asp Asp
385                 390                 395                 400

Phe Ser Glu Phe Asp Asn Leu Arg Thr Ser Lys Lys Thr Ala Glu Ser
                405                 410                 415

Val Thr Ser Leu Pro Ser Gln Asn Asn Gly Thr Thr Ser Pro Asp Pro
            420                 425                 430

Phe Glu Ser Gln Pro Leu Thr Val Ala Ser Ser Lys Pro Ser Ser Ala
        435                 440                 445

Arg Lys Thr Pro Glu Ser Phe Leu Gly Pro Asn Ala Ala Leu Val Asn
    450                 455                 460

Leu Asp Ser Leu Val Thr Arg Pro Ala Pro Xaa Ala Gln Ser Leu Asn
465                 470                 475                 480

Pro Phe Leu Ala Pro Gly Ala Pro Ala Asn Ser Ala Pro Val Asn Pro
                485                 490                 495

Phe Gln Val Asn Gln Pro Gln Pro Leu Thr Leu Asn Gln Leu Arg Gly
            500                 505                 510

Ser Pro Val Leu Gly Thr Ser Thr Ser Phe Gly Pro Gly Pro Gly Val
        515                 520                 525

Glu Ser Met Ala Val Ala Ser Met Thr Ser Ala Ala Pro Gln Pro Ala
    530                 535                 540

Leu Gly Ala Thr Gly Ser Ser Leu Thr Pro Leu Gly Pro Ala Met Met
545                 550                 555                 560

Asn Met Val Gly Ser Val Gly Ile Pro Pro Ser Ala Ala Gln Ala Thr
                565                 570                 575

Gly Thr Thr Asn Pro Phe Leu Leu
            580


<210> 45
<211> 912
<212> PRT
<213> Homo sapiens

<400> 45
Met Val Gly Glu Arg Tyr Arg Asp Leu Ile Glu Ala Ala Asp Thr Ile
  1               5                  10                  15

Gly Gln Met Arg Arg Cys Ala Val Gly Leu Val Asp Ala Val Lys Ala
             20                  25                  30

Thr Asp Gln Tyr Cys Ala Arg Leu Arg Gln Ala Gly Ser Ala Ala Pro
```

```
         35                  40                  45

Arg Pro Pro Arg Ala Gln Gln Pro Gln Gln Pro Ser Gln Glu Lys Phe
     50                  55                  60

Tyr Ser Met Ala Ala Gln Ile Lys Leu Leu Leu Glu Ile Pro Glu Lys
 65                  70                  75                  80

Ile Trp Ser Ser Met Glu Ala Ser Gln Cys Leu His Ala Thr Gln Leu
                 85                  90                  95

Tyr Leu Leu Cys Cys His Leu His Ser Leu Leu Gln Leu Asp Ser Ser
            100                 105                 110

Ser Ser Arg Tyr Ser Pro Val Leu Ser Arg Phe Pro Ile Leu Ile Arg
        115                 120                 125

Gln Val Ala Ala Ala Ser His Phe Arg Ser Thr Ile Leu His Glu Ser
    130                 135                 140

Lys Met Leu Leu Lys Cys Gln Gly Val Ser Asp Gln Ala Val Ala Glu
145                 150                 155                 160

Ala Leu Cys Ser Ile Met Leu Leu Glu Glu Ser Ser Pro Arg Gln Ala
                165                 170                 175

Leu Thr Asp Phe Leu Leu Ala Arg Lys Ala Thr Ile Gln Lys Leu Leu
            180                 185                 190

Asn Gln Pro His His Gly Ala Gly Ile Lys Ala Gln Ile Cys Ser Leu
        195                 200                 205

Val Glu Leu Leu Ala Thr Thr Leu Lys Gln Ala His Ala Leu Phe Tyr
    210                 215                 220

Thr Leu Pro Glu Gly Leu Leu Pro Asp Pro Ala Leu Pro Cys Gly Leu
225                 230                 235                 240

Leu Phe Ser Thr Leu Glu Thr Ile Thr Gly Gln His Pro Ala Gly Lys
                245                 250                 255

Gly Thr Gly Val Leu Gln Glu Glu Met Lys Leu Cys Ser Trp Phe Lys
            260                 265                 270

His Leu Pro Ala Ser Ile Val Glu Phe Gln Pro Thr Leu Arg Thr Leu
        275                 280                 285

Ala His Pro Ile Ser Gln Glu Tyr Leu Lys Asp Thr Leu Gln Lys Trp
    290                 295                 300

Ile His Met Cys Asn Glu Asp Ile Lys Asn Gly Ile Thr Asn Leu Leu
305                 310                 315                 320

Met Tyr Val Lys Ser Met Lys Gly Leu Ala Gly Ile Arg Asp Ala Met
                325                 330                 335

Trp Glu Leu Leu Thr Asn Glu Ser Thr Asn His Ser Trp Asp Val Leu
```

```
            340                 345                 350

Cys Arg Arg Leu Leu Glu Lys Pro Leu Leu Phe Trp Glu Asp Met Met
        355                 360                 365

Gln Gln Leu Phe Leu Asp Arg Leu Gln Thr Leu Thr Lys Glu Gly Phe
    370                 375                 380

Asp Ser Ile Ser Ser Ser Ser Lys Glu Leu Leu Val Ser Ala Leu Gln
385                 390                 395                 400

Glu Leu Glu Ser Ser Thr Ser Asn Ser Pro Ser Asn Lys His Ile His
                405                 410                 415

Phe Glu Tyr Asn Met Ser Leu Phe Leu Trp Ser Glu Ser Pro Asn Asp
            420                 425                 430

Leu Pro Ser Asp Ala Ala Trp Val Ser Val Ala Asn Arg Gly Gln Phe
        435                 440                 445

Ala Ser Ser Gly Leu Ser Met Lys Ala Gln Ala Ile Ser Pro Cys Val
    450                 455                 460

Gln Asn Phe Cys Ser Ala Leu Asp Ser Lys Leu Lys Val Lys Leu Asp
465                 470                 475                 480

Asp Leu Leu Ala Tyr Leu Pro Ser Asp Asp Ser Ser Leu Pro Lys Asp
                485                 490                 495

Val Ser Pro Thr Gln Ala Lys Ser Ser Ala Phe Asp Arg Tyr Ala Asp
            500                 505                 510

Ala Gly Thr Val Gln Glu Met Leu Arg Thr Gln Ser Val Ala Cys Ile
        515                 520                 525

Lys His Ile Val Asp Cys Ile Arg Ala Glu Leu Gln Ser Ile Glu Glu
    530                 535                 540

Gly Val Gln Gly Gln Gln Asp Ala Leu Asn Ser Ala Lys Leu His Ser
545                 550                 555                 560

Val Leu Phe Met Ala Arg Leu Cys Gln Ser Leu Gly Glu Leu Cys Pro
                565                 570                 575

His Leu Lys Gln Cys Ile Leu Gly Lys Ser Glu Ser Ser Glu Lys Pro
            580                 585                 590

Ala Arg Glu Phe Arg Ala Leu Arg Lys Gln Gly Lys Val Lys Thr Gln
        595                 600                 605

Glu Ile Ile Pro Thr Gln Ala Lys Trp Gln Glu Val Lys Glu Val Leu
    610                 615                 620

Leu Gln Gln Ser Val Met Gly Tyr Gln Val Trp Ser Ser Ala Val Val
625                 630                 635                 640

Lys Val Leu Ile His Gly Phe Thr Gln Ser Leu Leu Leu Asp Asp Ala
```

645 650 655

Gly Ser Val Leu Ala Thr Ala Thr Ser Trp Asp Glu Leu Glu Ile Gln
660 665 670

Glu Glu Ala Glu Ser Gly Ser Ser Val Thr Ser Lys Ile Arg Leu Pro
675 680 685

Ala Gln Pro Ser Trp Tyr Val Gln Ser Phe Leu Phe Ser Leu Cys Gln
690 695 700

Glu Ile Asn Arg Val Gly Gly His Ala Leu Pro Lys Val Thr Leu Gln
705 710 715 720

Glu Met Leu Lys Ser Cys Met Val Gln Val Val Ala Ala Tyr Glu Lys
725 730 735

Leu Ser Glu Glu Lys Gln Ile Lys Lys Glu Gly Ala Phe Pro Val Thr
740 745 750

Gln Asn Arg Ala Leu Gln Leu Leu Tyr Asp Leu Arg Tyr Leu Asn Ile
755 760 765

Val Leu Thr Ala Lys Gly Asp Glu Val Lys Ser Gly Arg Ser Lys Pro
770 775 780

Asp Ser Arg Ile Glu Lys Val Thr Asp His Leu Glu Ala Leu Ile Asp
785 790 795 800

Pro Phe Asp Leu Asp Val Phe Thr Pro His Leu Asn Ser Asn Leu His
805 810 815

Arg Leu Val Gln Arg Thr Ser Val Leu Phe Gly Leu Val Thr Gly Thr
820 825 830

Glu Asn Gln Leu Ala Pro Arg Ser Ser Thr Phe Asn Ser Gln Glu Pro
835 840 845

His Asn Ile Leu Pro Leu Ala Ser Ser Gln Ile Arg Phe Gly Leu Leu
850 855 860

Pro Leu Ser Met Thr Ser Thr Arg Lys Ala Lys Ser Thr Arg Asn Ile
865 870 875 880

Glu Thr Lys Ala Gln Val Gly Ala Lys Ser Lys Arg Leu Ile Arg Gly
885 890 895

Trp Val Pro Thr Ser His Arg Ala Thr His Asp Gln Leu Pro Phe Lys
900 905 910

<210> 46
<211> 980
<212> PRT

<213> Mus musculus

<400> 46

```
Met Ala Ala Ala Thr Ala Ser Ser Ala Leu Lys Arg Leu Asp Leu Arg
  1               5                  10                  15

Asp Pro Asn Ala Leu Phe Glu Thr His Gly Ala Glu Glu Ile Arg Gly
            20                  25                  30

Leu Glu Arg Gln Val Arg Ala Glu Ile Glu His Lys Lys Glu Glu Leu
         35                  40                  45

Arg Gln Met Val Gly Glu Arg Tyr Arg Asp Leu Ile Glu Ala Ala Asp
     50                  55                  60

Thr Ile Gly Gln Met Arg Arg Cys Ala Glu Gly Leu Val Asp Ala Val
 65                  70                  75                  80

Gln Ala Thr Asp Gln Tyr Cys Ala Arg Leu Arg Gln Ala Gly Ser Val
                85                  90                  95

Ala Pro Arg Val Pro Arg Ala Pro Gln Pro Gln Pro Pro Ser Glu Lys
            100                 105                 110

Phe Tyr Ser Met Ala Ala Gln Ile Lys Leu Leu Leu Glu Ile Pro Glu
        115                 120                 125

Lys Ile Trp Ser Ala Met Glu Ala Ser Gln His Leu Gln Ala Thr Gln
    130                 135                 140

Leu Tyr Leu Leu Cys Cys His Leu His Ser Leu Leu Gln Leu Asp Ser
145                 150                 155                 160

Ser Asn Ser Arg Tyr Ser Pro Ile Leu Ser Arg Phe Pro Ile Leu Ile
                165                 170                 175

Arg Gln Val Ala Ala Ala Ser His Phe Arg Ser Thr Ile Leu His Glu
            180                 185                 190

Ser Lys Met Leu Leu Lys Cys Gln Ala Val Ser Asp Gln Ala Val Ala
        195                 200                 205

Glu Ala Leu Cys Ser Ile Met Leu Leu Glu Glu Ser Ser Pro Arg Gln
    210                 215                 220

Ala Leu Thr Asp Phe Leu Leu Ala Arg Lys Ala Thr Ile Gln Thr Leu
225                 230                 235                 240

Leu Asn Gln Ser His His Gly Ala Gly Ile Lys Ala Gln Ile Cys Ser
                245                 250                 255

Leu Val Glu Leu Leu Ala Thr Thr Leu Asn Gln Ala His Ala Leu Phe
            260                 265                 270

Tyr Thr Leu Pro Glu Gly Val Leu Pro Asp Pro Ser Leu Pro Cys Gly
        275                 280                 285
```

```
Leu Leu Phe Ser Thr Leu Glu Thr Val Thr Arg Gln His Pro Thr Gly
    290                 295                 300

Lys Gly Ile Gly Ala Leu Gln Gly Glu Met Lys Leu Cys Ser Trp Leu
305                 310                 315                 320

Arg His Leu Pro Thr Ser Ile Ile Glu Phe Gln Pro Thr Leu Arg Thr
                325                 330                 335

Leu Ala His Pro Ile Ser Gln Glu Tyr Leu Lys Asp Thr Leu Gln Lys
            340                 345                 350

Trp Ile Asp Met Cys Asn Glu Asp Ile Lys Asn Gly Ile Gly Asn Leu
        355                 360                 365

Leu Met Tyr Val Lys Ser Met Lys Gly Leu Ala Gly Ile Arg Asp Ala
    370                 375                 380

Ile Trp Asp Leu Leu Ser Asn Glu Ser Ala Ser His Ser Trp Glu Val
385                 390                 395                 400

Val Cys Gln Arg Leu Leu Glu Lys Pro Leu Leu Phe Trp Glu Asp Leu
                405                 410                 415

Met Gln Gln Leu Phe Leu Asp Arg Leu Gln Thr Leu Thr Arg Glu Gly
            420                 425                 430

Phe Glu Ser Ile Ser Asn Ser Ser Lys Glu Leu Leu Val Ser Ala Leu
        435                 440                 445

Gln Glu Leu Glu Thr Asn Asn Ser Thr Ser Asn Lys His Val His Phe
    450                 455                 460

Glu Gln Asn Met Ser Phe Phe Leu Trp Ser Glu Ser Pro Asn Asp Leu
465                 470                 475                 480

Pro Ser Asp Ala Ala Trp Val Ser Val Ala Asn Arg Ala Gln Phe Ala
                485                 490                 495

Ser Ser Gly Leu Ser Met Lys Ala Gln Ala Ile Ser Pro Cys Val Gln
            500                 505                 510

Asn Phe Cys Ser Ala Leu Asp Ser Lys Leu Lys Val Lys Leu Asp Asp
        515                 520                 525

Leu Leu Ala Tyr Leu Pro Ser Ser Asp Thr Pro Leu Leu Lys Asp Thr
    530                 535                 540

Thr Pro Thr His Gln Pro Lys Asn Ser Ala Phe Asp Arg Tyr Ala Asp
545                 550                 555                 560

Thr Gly Thr Val Gln Asp Met Leu Arg Thr Gln Ser Val Ala Cys Ile
                565                 570                 575

Lys Ser Val Val Gly Cys Ile Gln Ala Glu Leu Cys Thr Ile Glu Glu
            580                 585                 590
```

```
Val Thr Arg Glu Gln Lys Asp Val Leu His Ser Thr Lys Leu His Ala
        595                 600                 605

Val Leu Phe Met Ala Arg Leu Cys Gln Ser Leu Gly Glu Leu Cys Pro
    610                 615                 620

His Leu Lys Gln Cys Ile Val Gly Gln Cys Gly Gly Ser Glu Lys Pro
625                 630                 635                 640

Ala Arg Glu Ala Arg Ala Leu Lys Lys Gln Gly Lys Gly Arg Ala Gln
                645                 650                 655

Asp Val Leu Pro Ala Gln Ala Gln Trp Gln Gly Val Lys Glu Val Leu
            660                 665                 670

Leu Gln Gln Ser Val Met Ala Tyr Arg Val Trp Ser Thr Ala Leu Val
        675                 680                 685

Lys Phe Leu Ile Cys Gly Phe Thr Arg Ser Leu Leu Leu Arg Asp Ala
    690                 695                 700

Gly Ser Val Leu Ala Thr Ala Thr Asn Trp Asp Glu Leu Glu Ile Gln
705                 710                 715                 720

Glu Gly Thr Glu Ser Gly Ser Ser Val Thr Ser Lys Ile Arg Leu Pro
                725                 730                 735

Thr Gln Pro Ser Trp Tyr Val Gln Ser Phe Leu Phe Ser Leu Cys Gln
            740                 745                 750

Glu Val Asn Arg Val Gly Gly His Ala Leu Pro Lys Val Thr Leu Gln
        755                 760                 765

Glu Met Leu Glu Thr Cys Met Ala Gln Val Ile Ala Ala Tyr Glu Gln
    770                 775                 780

Leu Thr Glu Glu Asn Gln Ile Lys Lys Glu Gly Ala Phe Pro Met Thr
785                 790                 795                 800

Gln Asn Arg Ala Leu Gln Leu Leu Tyr Asp Leu Arg Tyr Leu Thr Met
                805                 810                 815

Val Leu Ser Ser Lys Gly Glu Glu Val Lys Ser Gly Arg Ser Lys Ala
            820                 825                 830

Asp Ser Arg Met Glu Lys Met Thr Glu Arg Leu Glu Ala Leu Ile Asp
        835                 840                 845

Pro Phe Asp Leu Asp Val Phe Thr Pro His Leu Asn Ser Asn Leu Asn
    850                 855                 860

Arg Leu Val Gln Arg Thr Ser Val Leu Phe Gly Leu Val Thr Gly Thr
865                 870                 875                 880

Glu Asn Gln Phe Ala Ser Arg Ser Ser Thr Phe Asn Ser Gln Glu Pro
                885                 890                 895
```

```
His Asn Ile Leu Pro Leu Ala Ser Ser Gln Ile Arg Phe Gly Leu Leu
            900                 905                 910

Pro Leu Ser Met Thr Ser Thr Arg Lys Ala Arg Ala Thr Ser Arg Ser
        915                 920                 925

Val Glu Thr Gln Ala Gln Val Gly Pro Pro Ala Leu Ser Arg Val Gly
    930                 935                 940

Asp Pro Thr Thr His Pro Gly Ser Leu Phe Arg Gln Leu Ala Ser Glu
945                 950                 955                 960

Glu Asp Asp Ser Pro Ala Pro Ser Leu Phe Lys Leu Ala Trp Leu Ser
                965                 970                 975

Ser Met Thr Lys
            980


<210> 47
<211> 666
<212> PRT
<213> Homo sapiens

<400> 47
Met Lys Leu Cys Ser Trp Phe Lys His Leu Pro Ala Ser Ile Val Glu
  1               5                  10                  15

Phe Gln Pro Thr Leu Arg Thr Leu Ala His Pro Ile Ser Gln Glu Tyr
             20                  25                  30

Leu Lys Asp Thr Leu Gln Lys Trp Ile His Met Cys Asn Glu Asp Ile
         35                  40                  45

Lys Asn Gly Ile Thr Asn Leu Leu Met Tyr Val Lys Ser Met Lys Gly
     50                  55                  60

Leu Ala Gly Ile Arg Asp Ala Met Trp Glu Leu Leu Thr Asn Glu Ser
 65                  70                  75                  80

Thr Asn His Ser Trp Asp Val Leu Cys Arg Arg Leu Leu Glu Lys Pro
                 85                  90                  95

Leu Leu Phe Trp Glu Asp Met Met Gln Gln Leu Phe Leu Asp Arg Leu
            100                 105                 110

Gln Thr Leu Thr Lys Glu Gly Phe Asp Ser Ile Ser Ser Ser Ser Lys
        115                 120                 125

Glu Leu Leu Val Ser Ala Leu Gln Glu Leu Glu Ser Ser Thr Ser Asn
    130                 135                 140

Ser Pro Ser Asn Lys His Ile His Phe Glu Tyr Asn Met Ser Leu Phe
145                 150                 155                 160

Leu Trp Ser Glu Ser Pro Asn Asp Leu Pro Ser Asp Ala Ala Trp Val
                165                 170                 175
```

```
Ser Val Ala Asn Arg Gly Gln Phe Ala Ser Ser Gly Leu Ser Met Lys
            180                 185                 190

Ala Gln Ala Ile Ser Pro Cys Val Gln Asn Phe Cys Ser Ala Leu Asp
        195                 200                 205

Ser Lys Leu Lys Val Lys Leu Asp Asp Leu Leu Ala Tyr Leu Pro Ser
    210                 215                 220

Asp Asp Ser Ser Leu Pro Lys Asp Val Ser Pro Thr Gln Ala Lys Ser
225                 230                 235                 240

Ser Ala Phe Asp Arg Tyr Ala Asp Ala Gly Thr Val Gln Glu Met Leu
                245                 250                 255

Arg Thr Gln Ser Val Ala Cys Ile Lys His Ile Val Asp Cys Ile Arg
            260                 265                 270

Ala Glu Leu Gln Ser Ile Glu Glu Gly Val Gln Gly Gln Gln Asp Ala
        275                 280                 285

Leu Asn Ser Ala Lys Leu His Ser Val Leu Phe Met Ala Arg Leu Cys
    290                 295                 300

Gln Ser Leu Gly Glu Leu Cys Pro His Leu Lys Gln Cys Ile Leu Gly
305                 310                 315                 320

Lys Ser Glu Ser Ser Glu Lys Pro Ala Arg Glu Phe Arg Ala Leu Arg
                325                 330                 335

Lys Gln Gly Lys Val Lys Thr Gln Glu Ile Ile Pro Thr Gln Ala Lys
            340                 345                 350

Trp Gln Glu Val Lys Glu Val Leu Leu Gln Gln Ser Val Met Gly Tyr
        355                 360                 365

Gln Val Trp Ser Ser Ala Val Val Lys Val Leu Ile His Gly Phe Thr
    370                 375                 380

Gln Ser Leu Leu Leu Asp Asp Ala Gly Ser Val Leu Ala Thr Ala Thr
385                 390                 395                 400

Ser Trp Asp Glu Leu Glu Ile Gln Glu Glu Ala Glu Ser Gly Ser Ser
                405                 410                 415

Val Thr Ser Lys Ile Arg Leu Pro Ala Gln Pro Ser Trp Tyr Val Gln
            420                 425                 430

Ser Phe Leu Phe Ser Leu Cys Gln Glu Ile Asn Arg Val Gly Gly His
        435                 440                 445

Ala Leu Pro Lys Val Thr Leu Gln Glu Met Leu Lys Ser Cys Met Val
    450                 455                 460

Gln Val Val Ala Ala Tyr Glu Lys Leu Ser Glu Glu Lys Gln Ile Lys
465                 470                 475                 480
```

```
Lys Glu Gly Ala Phe Pro Val Thr Gln Asn Arg Ala Leu Gln Leu Leu
                485                 490                 495

Tyr Asp Leu Arg Tyr Leu Asn Ile Val Leu Thr Ala Lys Gly Asp Glu
            500                 505                 510

Val Lys Ser Gly Arg Ser Lys Pro Asp Ser Arg Ile Glu Lys Val Thr
        515                 520                 525

Asp His Leu Glu Ala Leu Ile Asp Pro Phe Asp Leu Asp Val Phe Thr
    530                 535                 540

Pro His Leu Asn Ser Asn Leu His Arg Leu Val Gln Arg Thr Ser Val
545                 550                 555                 560

Leu Phe Gly Leu Val Thr Gly Thr Glu Asn Gln Leu Ala Pro Arg Ser
                565                 570                 575

Ser Thr Phe Asn Ser Gln Glu Pro His Asn Ile Leu Pro Leu Ala Ser
            580                 585                 590

Ser Gln Ile Arg Phe Gly Leu Leu Pro Leu Ser Met Thr Ser Thr Arg
        595                 600                 605

Lys Ala Lys Ser Thr Arg Asn Ile Glu Thr Lys Ala Gln Val Val Pro
    610                 615                 620

Pro Ala Arg Ser Thr Ala Gly Asp Pro Thr Val Pro Gly Ser Leu Phe
625                 630                 635                 640

Arg Gln Leu Val Ser Glu Glu Asp Asn Thr Ser Ala Pro Ser Leu Phe
                645                 650                 655

Lys Leu Gly Trp Leu Ser Ser Met Thr Lys
            660                 665


<210> 48
<211> 961
<212> PRT
<213> Homo sapiens

<400> 48
Ala Thr Ala Ala Thr Ser Pro Ala Leu Lys Arg Leu Asp Leu Arg Asp
  1               5                  10                  15

Pro Ala Ala Leu Phe Glu Thr His Gly Ala Glu Glu Ile Arg Gly Leu
             20                  25                  30

Glu Arg Gln Val Arg Ala Glu Ile Glu His Lys Lys Glu Glu Leu Arg
         35                  40                  45

Gln Met Val Gly Glu Arg Tyr Arg Asp Leu Ile Glu Ala Ala Asp Thr
     50                  55                  60

Ile Gly Gln Met Arg Arg Cys Ala Val Gly Leu Val Asp Ala Val Lys
```

```
 65                  70                  75                  80

Ala Thr Asp Gln Tyr Cys Ala Arg Leu Arg Gln Ala Gly Ser Ala Ala
                 85                  90                  95

Pro Arg Pro Pro Arg Ala Gln Gln Pro Gln Gln Pro Ser Gln Glu Lys
            100                 105                 110

Phe Tyr Ser Met Ala Ala Gln Ile Lys Leu Leu Leu Glu Ile Pro Glu
        115                 120                 125

Lys Ile Trp Ser Ser Met Glu Ala Ser Gln Cys Leu His Ala Thr Gln
    130                 135                 140

Leu Tyr Leu Leu Cys Cys His Leu His Ser Leu Leu Gln Leu Asp Ser
145                 150                 155                 160

Ser Ser Ser Arg Tyr Ser Pro Val Leu Ser Arg Phe Pro Ile Leu Ile
                165                 170                 175

Arg Gln Val Ala Ala Ala Ser His Phe Arg Ser Thr Ile Leu His Glu
            180                 185                 190

Ser Lys Met Leu Leu Lys Cys Gln Gly Val Ser Asp Gln Ala Val Ala
        195                 200                 205

Glu Ala Leu Cys Ser Ile Met Leu Leu Glu Glu Ser Ser Pro Arg Gln
    210                 215                 220

Ala Leu Thr Asp Phe Leu Leu Ala Arg Lys Ala Thr Ile Gln Lys Leu
225                 230                 235                 240

Leu Asn Gln Pro His His Gly Ala Gly Ile Lys Ala Gln Ile Cys Ser
                245                 250                 255

Leu Val Glu Leu Leu Ala Thr Thr Leu Lys Gln Ala His Ala Leu Phe
            260                 265                 270

Tyr Thr Leu Pro Glu Gly Leu Leu Pro Asp Pro Ala Leu Pro Cys Gly
        275                 280                 285

Leu Leu Phe Ser Thr Leu Glu Thr Ile Thr Gly Gln His Pro Ala Gly
    290                 295                 300

Lys Gly Thr Gly Val Leu Gln Glu Glu Met Lys Leu Cys Ser Trp Phe
305                 310                 315                 320

Lys His Leu Pro Ala Ser Ile Val Glu Phe Gln Pro Thr Leu Arg Thr
                325                 330                 335

Leu Ala His Pro Ile Ser Gln Glu Tyr Leu Lys Asp Thr Leu Gln Lys
            340                 345                 350

Trp Ile His Met Cys Asn Glu Asp Ile Lys Asn Gly Ile Thr Asn Leu
        355                 360                 365

Leu Met Tyr Val Lys Ser Met Lys Gly Leu Ala Gly Ile Pro Asp Ala
```

```
    370                 375                 380

Met Trp Glu Leu Leu Thr Asn Glu Ser Thr Asn His Ser Trp Asp Val
385                 390                 395                 400

Leu Cys Arg Arg Leu Leu Glu Lys Pro Leu Leu Phe Trp Glu Asp Met
                405                 410                 415

Met Gln Gln Leu Phe Leu Asp Arg Leu Gln Thr Leu Thr Lys Glu Gly
            420                 425                 430

Phe Asp Ser Ile Ser Ser Ser Ser Lys Glu Leu Leu Val Ser Ala Leu
        435                 440                 445

Gln Glu Leu Glu Ser Ser Thr Ser Asn Ser Pro Ser Asn Lys His Ile
    450                 455                 460

His Phe Glu Tyr Asn Met Ser Leu Phe Leu Trp Ser Glu Ser Pro Asn
465                 470                 475                 480

Asp Leu Pro Ser Asp Ala Ala Trp Val Ser Val Ala Asn Arg Gly Gln
                485                 490                 495

Phe Ala Ser Ser Gly Leu Ser Met Lys Ala Gln Ala Ile Ser Pro Cys
            500                 505                 510

Val Gln Asn Phe Cys Ser Ala Leu Asp Ser Lys Leu Lys Val Lys Leu
        515                 520                 525

Asp Asp Leu Leu Ala Tyr Leu Pro Ser Asp Asp Ser Ser Leu Pro Lys
    530                 535                 540

Asp Val Ser Pro Thr Gln Ala Lys Ser Ser Ala Phe Asp Arg Tyr Ala
545                 550                 555                 560

Asp Ala Gly Thr Val Gln Glu Met Leu Arg Thr Gln Ser Val Ala Cys
                565                 570                 575

Ile Lys His Ile Val Asp Cys Ile Arg Ala Glu Leu Gln Ser Ile Glu
            580                 585                 590

Glu Gly Val Gln Gly Gln Gln Asp Ala Leu Asn Ser Ala Lys Leu His
        595                 600                 605

Ser Val Leu Phe Met Ala Arg Leu Cys Gln Ser Leu Gly Glu Leu Cys
    610                 615                 620

Pro His Leu Lys Gln Cys Ile Leu Gly Lys Ser Glu Ser Ser Glu Lys
625                 630                 635                 640

Pro Ala Arg Glu Phe Arg Ala Leu Arg Lys Gln Gly Lys Val Lys Thr
                645                 650                 655

Gln Glu Ile Ile Pro Thr Gln Ala Lys Trp Gln Glu Val Lys Glu Val
            660                 665                 670

Leu Leu Gln Gln Ser Val Met Gly Tyr Gln Val Trp Ser Ser Ala Val
```

675 680 685

Val Lys Val Leu Ile His Gly Phe Thr Gln Ser Leu Leu Leu Asp Asp
690 695 700

Ala Gly Ser Val Leu Ala Thr Ala Thr Ser Trp Asp Glu Leu Glu Ile
705 710 715 720

Gln Glu Glu Ala Glu Ser Gly Ser Ser Val Thr Ser Lys Ile Arg Leu
725 730 735

Pro Ala Gln Pro Ser Trp Tyr Val Gln Ser Phe Leu Phe Ser Leu Cys
740 745 750

Gln Glu Ile Asn Arg Val Gly Gly His Ala Leu Pro Lys Val Thr Leu
755 760 765

Gln Glu Met Leu Lys Ser Cys Met Val Gln Val Val Ala Ala Tyr Glu
770 775 780

Lys Leu Ser Glu Glu Lys Gln Ile Lys Lys Glu Gly Ala Phe Pro Val
785 790 795 800

Thr Gln Asn Arg Ala Leu Gln Leu Leu Tyr Asp Leu Arg Tyr Leu Asn
805 810 815

Ile Val Leu Thr Ala Lys Gly Asp Glu Val Lys Ser Gly Arg Ser Lys
820 825 830

Pro Asp Ser Arg Ile Glu Lys Val Thr Asp His Leu Glu Ala Leu Ile
835 840 845

Asp Pro Phe Asp Leu Asp Val Phe Thr Pro His Leu Asn Ser Asn Leu
850 855 860

His Arg Leu Val Gln Arg Thr Ser Val Leu Phe Gly Leu Val Thr Gly
865 870 875 880

Thr Glu Asn Gln Leu Ala Pro Arg Ser Ser Thr Phe Asn Ser Gln Glu
885 890 895

Pro His Asn Ile Leu Pro Leu Ala Ser Ser Gln Ile Arg Phe Gly Leu
900 905 910

Leu Pro Leu Ser Met Thr Ser Thr Arg Lys Ala Lys Ser Thr Arg Asn
915 920 925

Ile Glu Thr Lys Ala Gln Val Gly Ala Lys Ser Lys Arg Leu Ile Arg
930 935 940

Gly Trp Val Pro Thr Ser His Arg Ala Thr His Asp Gln Leu Pro Phe
945 950 955 960

Lys

<210> 49
<211> 438
<212> PRT
<213> Homo sapiens

<400> 49
Leu Pro Lys Asp Val Ser Pro Thr Gln Ala Lys Ser Ser Ala Phe Asp
1 5 10 15

Arg Tyr Ala Asp Ala Gly Thr Val Gln Glu Met Leu Arg Thr Gln Ser
20 25 30

Val Ala Cys Ile Lys His Ile Val Asp Cys Ile Arg Ala Glu Leu Gln
35 40 45

Ser Ile Glu Glu Gly Val Gln Gly Gln Gln Asp Ala Leu Asn Ser Ala
50 55 60

Lys Leu His Ser Val Leu Phe Met Ala Arg Leu Cys Gln Ser Leu Gly
65 70 75 80

Glu Leu Cys Pro His Leu Lys Gln Cys Ile Leu Gly Lys Ser Glu Ser
85 90 95

Ser Glu Lys Pro Ala Arg Glu Phe Arg Ala Leu Arg Lys Gln Gly Lys
100 105 110

Val Lys Thr Gln Glu Ile Ile Pro Thr Gln Ala Lys Trp Gln Glu Val
115 120 125

Lys Glu Val Leu Leu Gln Gln Ser Val Met Gly Tyr Gln Val Trp Ser
130 135 140

Ser Ala Val Val Lys Val Leu Ile His Gly Phe Thr Gln Ser Leu Leu
145 150 155 160

Leu Asp Asp Ala Gly Ser Val Leu Ala Thr Ala Thr Ser Trp Asp Glu
165 170 175

Leu Glu Ile Gln Glu Glu Ala Glu Ser Gly Ser Ser Val Thr Ser Lys
180 185 190

Ile Arg Leu Pro Ala Gln Pro Ser Trp Tyr Val Gln Ser Phe Leu Phe
195 200 205

Ser Leu Cys Gln Glu Ile Asn Arg Val Gly Gly His Ala Leu Pro Lys
210 215 220

Val Thr Leu Gln Glu Met Leu Lys Ser Cys Met Val Gln Val Val Ala
225 230 235 240

Ala Tyr Glu Lys Leu Ser Glu Glu Lys Gln Ile Lys Lys Glu Gly Ala
245 250 255

Phe Pro Val Thr Gln Asn Arg Ala Leu Gln Leu Leu Tyr Asp Leu Arg
260 265 270

```
Tyr Leu Asn Ile Val Leu Thr Ala Lys Gly Asp Glu Val Lys Ser Gly
        275                 280                 285

Arg Ser Lys Pro Asp Ser Arg Ile Glu Lys Val Thr Asp His Leu Glu
    290                 295                 300

Ala Leu Ile Asp Pro Phe Asp Leu Asp Val Phe Thr Pro His Leu Asn
305                 310                 315                 320

Ser Asn Leu His Arg Leu Val Gln Arg Thr Ser Val Leu Phe Gly Leu
                325                 330                 335

Val Thr Gly Thr Glu Asn Gln Leu Ala Pro Arg Ser Ser Thr Phe Asn
            340                 345                 350

Ser Gln Glu Pro His Asn Ile Leu Pro Leu Ala Ser Ser Gln Ile Arg
        355                 360                 365

Phe Gly Leu Leu Pro Leu Ser Met Thr Ser Thr Arg Lys Ala Lys Ser
    370                 375                 380

Thr Arg Asn Ile Glu Thr Lys Ala Gln Val Val Pro Pro Ala Arg Ser
385                 390                 395                 400

Thr Ala Gly Asp Pro Thr Val Pro Gly Ser Leu Phe Arg Gln Leu Val
                405                 410                 415

Ser Glu Glu Asp Asn Thr Ser Ala Pro Ser Leu Phe Lys Leu Gly Trp
            420                 425                 430

Leu Ser Ser Met Thr Lys
        435


<210> 50
<211> 373
<212> PRT
<213> Mus musculus

<400> 50
Met Thr Glu Val Pro Trp Ser Val Val Pro Asn Gly Thr Asp Ala Ala
  1               5                  10                  15

Phe Leu Ala Gly Leu Gly Ser Leu Trp Gly Asn Ser Thr Val Ala Ser
             20                  25                  30

Thr Ala Ala Val Ser Ser Ser Phe Gln Cys Ala Leu Thr Lys Thr Gly
         35                  40                  45

Phe Gln Phe Tyr Tyr Leu Pro Ala Val Tyr Ile Leu Val Phe Ile Ile
     50                  55                  60

Gly Phe Leu Gly Asn Ser Val Ala Ile Trp Met Phe Val Phe His Met
 65                  70                  75                  80

Lys Pro Trp Ser Gly Ile Ser Val Tyr Met Phe Asn Leu Ala Leu Ala
                 85                  90                  95
```

```
Asp Phe Leu Tyr Val Leu Thr Leu Pro Ala Leu Ile Phe Tyr Tyr Phe
            100                 105                 110

Asn Lys Thr Asp Trp Ile Phe Gly Asp Ala Met Cys Lys Leu Gln Arg
        115                 120                 125

Phe Ile Phe His Val Asn Leu Tyr Gly Ser Ile Leu Phe Leu Thr Cys
    130                 135                 140

Ile Ser Ala His Arg Tyr Ser Gly Val Val Tyr Pro Leu Lys Ser Leu
145                 150                 155                 160

Gly Arg Leu Lys Lys Lys Asn Ala Ile Tyr Val Ser Val Leu Val Trp
                165                 170                 175

Leu Ile Val Val Val Ala Ile Ser Pro Ile Leu Phe Tyr Ser Gly Thr
            180                 185                 190

Gly Thr Arg Lys Asn Lys Thr Val Thr Cys Tyr Asp Thr Thr Ser Asn
        195                 200                 205

Asp Tyr Leu Arg Ser Tyr Phe Ile Tyr Ser Met Cys Thr Thr Val Ala
    210                 215                 220

Met Phe Cys Ile Pro Leu Val Leu Ile Leu Gly Cys Tyr Gly Leu Ile
225                 230                 235                 240

Val Lys Ala Leu Ile Tyr Asn Asp Leu Asp Asn Ser Pro Leu Arg Arg
                245                 250                 255

Lys Ser Ile Tyr Leu Val Ile Ile Val Leu Thr Val Phe Ala Val Ser
            260                 265                 270

Tyr Ile Pro Phe His Val Met Lys Thr Met Asn Leu Arg Ala Arg Leu
        275                 280                 285

Asp Phe Gln Thr Pro Glu Met Cys Asp Phe Asn Asp Arg Val Tyr Ala
    290                 295                 300

Thr Tyr Gln Val Thr Arg Gly Leu Ala Ser Leu Asn Ser Cys Val Asp
305                 310                 315                 320

Pro Ile Leu Tyr Phe Leu Ala Gly Asp Thr Phe Arg Arg Arg Leu Ser
                325                 330                 335

Arg Ala Thr Arg Lys Ala Ser Arg Arg Ser Glu Ala Asn Leu Gln Ser
            340                 345                 350

Lys Ser Glu Glu Met Thr Leu Asn Ile Leu Ser Glu Phe Lys Gln Asn
        355                 360                 365

Gly Asp Thr Ser Leu
    370
```

<210> 51

<211> 373
<212> PRT
<213> Homo sapiens

<400> 51
Met Thr Glu Val Leu Trp Pro Ala Val Pro Asn Gly Thr Asp Ala Ala
1 5 10 15

Phe Leu Ala Gly Pro Gly Ser Ser Trp Gly Asn Ser Thr Val Ala Ser
20 25 30

Thr Ala Ala Val Ser Ser Ser Phe Lys Cys Ala Leu Thr Lys Thr Gly
35 40 45

Phe Gln Phe Tyr Tyr Leu Pro Ala Val Tyr Ile Leu Val Phe Ile Ile
50 55 60

Gly Phe Leu Gly Asn Ser Val Ala Ile Trp Met Phe Val Phe His Met
65 70 75 80

Lys Pro Trp Ser Gly Ile Ser Val Tyr Met Phe Asn Leu Ala Leu Ala
85 90 95

Asp Phe Leu Tyr Val Leu Thr Leu Pro Ala Leu Ile Phe Tyr Tyr Phe
100 105 110

Asn Lys Thr Asp Trp Ile Phe Gly Asp Ala Met Cys Lys Leu Gln Arg
115 120 125

Phe Ile Phe His Val Asn Leu Tyr Gly Ser Ile Leu Phe Leu Thr Cys
130 135 140

Ile Ser Ala His Arg Tyr Ser Gly Val Val Tyr Pro Leu Lys Ser Leu
145 150 155 160

Gly Arg Leu Lys Lys Lys Asn Ala Ile Cys Ile Ser Val Leu Val Trp
165 170 175

Leu Ile Val Val Val Ala Ile Ser Pro Ile Leu Phe Tyr Ser Gly Thr
180 185 190

Gly Val Arg Lys Asn Lys Thr Ile Thr Cys Tyr Asp Thr Thr Ser Asp
195 200 205

Glu Tyr Leu Arg Ser Tyr Phe Ile Tyr Ser Met Cys Thr Thr Val Ala
210 215 220

Met Phe Cys Val Pro Leu Val Leu Ile Leu Gly Cys Tyr Gly Leu Ile
225 230 235 240

Val Arg Ala Leu Ile Tyr Lys Asp Leu Asp Asn Ser Pro Leu Arg Arg
245 250 255

Lys Ser Ile Tyr Leu Val Ile Ile Val Leu Thr Val Phe Ala Val Ser
260 265 270

Tyr Ile Pro Phe His Val Met Lys Thr Met Asn Leu Arg Ala Arg Leu

```
        275                 280                 285

Asp Phe Gln Thr Pro Ala Met Cys Ala Phe Asn Asp Arg Val Tyr Ala
    290                 295                 300

Thr Tyr Gln Val Thr Arg Gly Leu Ala Ser Leu Asn Ser Cys Val Asp
305                 310                 315                 320

Pro Ile Leu Tyr Phe Leu Ala Gly Asp Thr Phe Arg Arg Arg Leu Ser
                325                 330                 335

Arg Ala Thr Arg Lys Ala Ser Arg Arg Ser Glu Ala Asn Leu Gln Ser
            340                 345                 350

Lys Ser Glu Asp Met Thr Leu Asn Ile Leu Pro Glu Phe Lys Gln Asn
        355                 360                 365

Gly Asp Thr Ser Leu
    370
```

<210> 52
<211> 537
<212> PRT
<213> Xenopus laevis

<400> 52

```
Met Thr Glu Asp Ile Met Ala Thr Ser Tyr Pro Thr Phe Leu Thr Thr
  1               5                  10                  15

Pro Tyr Leu Pro Met Lys Leu Leu Met Asn Leu Thr Asn Asp Thr Glu
             20                  25                  30

Asp Ile Cys Val Phe Asp Glu Gly Phe Lys Phe Leu Leu Leu Pro Val
         35                  40                  45

Ser Tyr Ser Ala Val Phe Met Val Gly Leu Pro Leu Asn Ile Ala Ala
     50                  55                  60

Met Trp Ile Phe Ile Ala Lys Met Arg Pro Trp Asn Pro Thr Thr Val
 65                  70                  75                  80

Tyr Met Phe Asn Leu Ala Leu Ser Asp Thr Leu Tyr Val Leu Ser Leu
                 85                  90                  95

Pro Thr Leu Val Tyr Tyr Tyr Ala Asp Lys Asn Asn Trp Pro Phe Gly
            100                 105                 110

Glu Val Leu Cys Lys Leu Val Arg Phe Leu Phe Tyr Ala Asn Leu Tyr
        115                 120                 125

Ser Ser Ile Leu Phe Leu Thr Cys Ile Ser Val His Arg Tyr Arg Gly
    130                 135                 140

Val Cys His Pro Ile Thr Ser Leu Arg Arg Met Asn Ala Lys His Ala
145                 150                 155                 160
```

```
Tyr Val Ile Cys Ala Leu Val Trp Leu Ser Val Thr Leu Cys Leu Val
                165                 170                 175

Pro Asn Leu Ile Phe Val Thr Val Ser Pro Lys Val Lys Asn Thr Ile
            180                 185                 190

Cys His Asp Thr Thr Arg Pro Glu Asp Phe Ala Arg Tyr Val Glu Tyr
        195                 200                 205

Ser Thr Ala Ile Met Cys Leu Leu Phe Gly Ile Pro Cys Leu Ile Ile
    210                 215                 220

Ala Gly Cys Tyr Gly Leu Met Thr Arg Glu Leu Met Lys Pro Ile Val
225                 230                 235                 240

Ser Gly Asn Gln Gln Thr Leu Pro Ser Tyr Lys Lys Arg Ser Ile Lys
                245                 250                 255

Thr Ile Ile Phe Val Met Ile Ala Phe Ala Ile Cys Phe Met Pro Phe
            260                 265                 270

His Ile Thr Arg Thr Leu Tyr Tyr Tyr Ala Arg Leu Leu Gly Ile Lys
        275                 280                 285

Cys Tyr Ala Leu Asn Val Ile Asn Val Thr Tyr Lys Val Thr Arg Pro
    290                 295                 300

Leu Ala Ser Ala Asn Ser Cys Ile Asp Pro Ile Leu Tyr Phe Leu Ala
305                 310                 315                 320

Asn Asp Arg Tyr Arg Arg Arg Leu Ile Arg Thr Val Arg Arg Arg Ser
                325                 330                 335

Ser Val Pro Asn Arg Arg Cys Met His Thr Asn His Pro Gln Thr Glu
            340                 345                 350

Pro His Met Thr Ala Gly Pro Leu Pro Val Ile Ser Ala Glu Glu Ile
        355                 360                 365

Pro Ser Asn Gly Ser Met Val Arg Asp Glu Asn Gly Glu Gly Ser Arg
    370                 375                 380

Glu His Arg Val Glu Trp Thr Asp Thr Lys Glu Ile Asn Gln Met Met
385                 390                 395                 400

Asn Arg Arg Ser Thr Ile Lys Arg Asn Ser Thr Asp Lys Asn Asp Met
                405                 410                 415

Lys Glu Asn Arg His Gly Glu Asn Tyr Leu Pro Tyr Val Glu Val Val
            420                 425                 430

Glu Lys Glu Asp Tyr Glu Thr Lys Arg Glu Asn Arg Lys Thr Thr Glu
        435                 440                 445

Gln Ser Ser Lys Thr Asn Ala Glu Gln Asp Glu Leu Gln Thr Gln Ile
    450                 455                 460
```

```
Asp Ser Arg Leu Lys Arg Gly Lys Trp Gln Leu Ser Ser Lys Lys Gly
465                 470                 475                 480

Ala Ala Gln Glu Asn Glu Lys Gly His Met Glu Pro Ser Phe Glu Gly
                485                 490                 495

Glu Gly Thr Ser Thr Trp Asn Leu Leu Thr Pro Lys Met Tyr Gly Lys
            500                 505                 510

Lys Asp Arg Leu Ala Lys Asn Val Glu Glu Val Gly Tyr Gly Lys Glu
        515                 520                 525

Lys Glu Leu Gln Asn Phe Pro Lys Ala
    530                 535


<210> 53
<211> 362
<212> PRT
<213> Meleagris gallopavo

<400> 53
Met Thr Glu Ala Leu Ile Ser Ala Ala Leu Asn Gly Thr Gln Pro Glu
  1               5                  10                  15

Leu Leu Ala Gly Gly Trp Ala Ala Gly Asn Ala Ser Thr Lys Cys Ser
             20                  25                  30

Leu Thr Lys Thr Gly Phe Gln Phe Tyr Tyr Leu Pro Thr Val Tyr Ile
         35                  40                  45

Leu Val Phe Ile Thr Gly Phe Leu Gly Asn Ser Val Ala Ile Trp Met
     50                  55                  60

Phe Val Phe His Met Arg Pro Trp Ser Gly Ile Ser Val Tyr Met Phe
 65                  70                  75                  80

Asn Leu Ala Leu Ala Asp Phe Leu Tyr Val Leu Thr Leu Pro Ala Leu
                 85                  90                  95

Ile Phe Tyr Tyr Phe Asn Lys Thr Asp Trp Ile Phe Gly Asp Val Met
            100                 105                 110

Cys Lys Leu Gln Arg Phe Ile Phe His Val Asn Leu Tyr Gly Ser Ile
        115                 120                 125

Leu Phe Leu Thr Cys Ile Ser Val His Arg Tyr Thr Gly Val Val His
    130                 135                 140

Pro Leu Lys Ser Leu Gly Arg Leu Lys Lys Lys Asn Ala Val Tyr Val
145                 150                 155                 160

Ser Ser Leu Val Trp Ala Leu Val Val Ala Val Ile Ala Pro Ile Leu
                165                 170                 175

Phe Tyr Ser Gly Thr Gly Val Arg Arg Asn Lys Thr Ile Thr Cys Tyr
            180                 185                 190
```

```
Asp Thr Thr Ala Asp Glu Tyr Leu Arg Ser Tyr Phe Val Tyr Ser Met
        195                 200                 205

Cys Thr Thr Val Phe Met Phe Cys Ile Pro Phe Ile Val Ile Leu Gly
    210                 215                 220

Cys Tyr Gly Leu Ile Val Lys Ala Leu Ile Tyr Lys Asp Leu Asp Asn
225                 230                 235                 240

Ser Pro Leu Arg Arg Lys Ser Ile Tyr Leu Val Ile Ile Val Leu Thr
                245                 250                 255

Val Phe Ala Val Ser Tyr Leu Pro Phe His Val Met Lys Thr Leu Asn
            260                 265                 270

Leu Arg Ala Arg Leu Asp Phe Gln Thr Pro Gln Met Cys Ala Phe Asn
        275                 280                 285

Asp Lys Val Tyr Ala Thr Tyr Gln Val Thr Arg Gly Leu Ala Ser Leu
    290                 295                 300

Asn Ser Cys Val Asp Pro Ile Leu Tyr Phe Leu Ala Gly Asp Thr Phe
305                 310                 315                 320

Arg Arg Arg Leu Ser Arg Ala Thr Arg Lys Ser Ser Arg Arg Ser Glu
                325                 330                 335

Pro Asn Val Gln Ser Lys Ser Glu Glu Met Thr Leu Asn Ile Leu Thr
            340                 345                 350

Glu Tyr Lys Gln Asn Gly Asp Thr Ser Leu
        355                 360
```

<210> 54
<211> 362
<212> PRT
<213> Gallus gallus

<400> 54

```
Met Thr Glu Ala Leu Ile Ser Ala Ala Leu Asn Gly Thr Gln Pro Glu
  1               5                  10                  15

Leu Leu Ala Gly Gly Trp Ala Ala Gly Asn Ala Thr Thr Lys Cys Ser
             20                  25                  30

Leu Thr Lys Thr Gly Phe Gln Phe Tyr Tyr Leu Pro Thr Val Tyr Ile
         35                  40                  45

Leu Val Phe Ile Thr Gly Phe Leu Gly Asn Ser Val Ala Ile Trp Met
     50                  55                  60

Phe Val Phe His Met Arg Pro Trp Ser Gly Ile Ser Val Tyr Met Phe
 65                  70                  75                  80

Asn Leu Ala Leu Ala Asp Phe Leu Tyr Val Leu Thr Leu Pro Ala Leu
```

```
                85                  90                  95

Ile Phe Tyr Tyr Phe Asn Lys Thr Asp Trp Ile Phe Gly Asp Val Met
            100                 105                 110

Cys Lys Leu Gln Arg Phe Ile Phe His Val Asn Leu Tyr Gly Ser Ile
        115                 120                 125

Leu Phe Leu Thr Cys Ile Ser Val His Arg Tyr Thr Gly Val Val His
    130                 135                 140

Pro Leu Lys Ser Leu Gly Arg Leu Lys Lys Lys Asn Ala Val Tyr Val
145                 150                 155                 160

Ser Ser Leu Val Trp Ala Leu Val Val Ala Val Ile Ala Pro Ile Leu
                165                 170                 175

Phe Tyr Ser Gly Thr Gly Val Arg Arg Asn Lys Thr Ile Thr Cys Tyr
            180                 185                 190

Asp Thr Thr Ala Asp Glu Tyr Leu Arg Ser Tyr Phe Val Tyr Ser Met
        195                 200                 205

Cys Thr Thr Val Phe Met Phe Cys Ile Pro Phe Ile Val Ile Leu Gly
    210                 215                 220

Cys Tyr Gly Leu Ile Val Lys Ala Leu Ile Tyr Lys Asp Leu Asp Asn
225                 230                 235                 240

Ser Pro Leu Arg Arg Lys Ser Ile Tyr Leu Val Ile Ile Val Leu Thr
                245                 250                 255

Val Phe Ala Val Ser Tyr Leu Pro Phe His Val Met Lys Thr Leu Asn
            260                 265                 270

Leu Arg Ala Arg Leu Asp Phe Gln Thr Pro Gln Met Cys Ala Phe Asn
        275                 280                 285

Asp Lys Val Tyr Ala Thr Tyr Gln Val Thr Arg Gly Leu Ala Ser Leu
    290                 295                 300

Asn Ser Cys Val Asp Pro Ile Leu Tyr Phe Leu Ala Gly Asp Thr Phe
305                 310                 315                 320

Arg Arg Arg Leu Ser Arg Ala Thr Arg Lys Ser Ser Arg Arg Ser Glu
                325                 330                 335

Pro Asn Val Gln Ser Lys Ser Glu Glu Met Thr Leu Asn Ile Leu Thr
            340                 345                 350

Glu Tyr Lys Gln Asn Gly Asp Thr Ser Leu
        355                 360
```

<210> 55
<211> 149
<212> PRT

<213> Drosophila melanogaster

<400> 55
Met Ala Asp Gln Leu Thr Glu Glu Gln Ile Ala Glu Phe Lys Glu Ala
1 5 10 15

Phe Ser Leu Phe Asp Lys Asp Gly Asp Gly Thr Ile Thr Thr Lys Glu
20 25 30

Leu Gly Thr Val Met Arg Ser Leu Gly Gln Asn Pro Thr Glu Ala Glu
35 40 45

Leu Gln Asp Met Ile Asn Glu Val Asp Ala Asp Gly Asn Gly Thr Ile
50 55 60

Asp Phe Pro Glu Phe Leu Thr Met Met Ala Arg Lys Met Lys Asp Thr
65 70 75 80

Asp Ser Glu Glu Glu Ile Arg Glu Ala Phe Arg Val Phe Asp Lys Asp
85 90 95

Gly Asn Gly Phe Ile Ser Ala Ala Glu Leu Arg His Val Met Thr Asn
100 105 110

Leu Gly Glu Lys Leu Thr Asp Glu Glu Val Asp Glu Met Ile Arg Glu
115 120 125

Ala Asp Ile Asp Gly Asp Gly Gln Val Asn Tyr Glu Glu Phe Val Thr
130 135 140

Met Met Thr Ser Lys
145

<210> 56
<211> 729
<212> PRT
<213> Caenorhabditis elegans

<400> 56
Met Gly Ala Gln Gly Ser Arg Val Asp Phe Lys Gln Val Val Leu Asp
1 5 10 15

Val Thr Ser Lys Pro Gly Lys Asp Asp Glu Thr Phe Trp Asp Gln Ala
20 25 30

Trp Trp Pro Asp Ser Val Asn Glu Ile Phe Ala Met Ile Ser Gly Glu
35 40 45

Asp Ile Arg Lys Leu Arg Asp Glu Ser Pro Lys Asn Leu Ala Thr Leu
50 55 60

Val Tyr Lys Thr Val Glu Lys Leu Gln Phe Ser Arg Asn His Pro Ala
65 70 75 80

Thr Ile Asp Gln Lys Lys Thr Ile Asn Ala Ile Arg Leu Leu Thr Arg
85 90 95

```
Ile Val Pro Tyr Leu Leu Glu Asp Ala Glu Trp Arg Gly Tyr Phe Trp
            100                 105                 110

Ser Pro Ile Pro His Gly Asp Ala Ala Lys Pro Leu Ala Ala Val Leu
        115                 120                 125

Leu Glu Thr Leu Ser Asp Leu Leu Phe Cys Pro Glu Phe Thr Ile Thr
    130                 135                 140

His Ala Asn Gly Gln Lys Ile Asp Asp Leu Ser Thr Ile Asp Ser Cys
145                 150                 155                 160

Glu Tyr Ile Trp Glu Ala Gly Val Gly Ser Gly Asn Lys Pro Pro Met
                165                 170                 175

Val Ala Leu His Tyr Gln Asn Arg Thr Glu Ile Leu Lys Leu Leu Leu
            180                 185                 190

Thr Cys Phe Ala Glu Leu Ile Tyr Ala Pro Val Ser Asp Glu Thr Arg
        195                 200                 205

Leu Arg Trp Val Ile His Phe Thr Ser Val Thr Asn Pro His Val Leu
    210                 215                 220

Pro Ile Phe Thr Ser Leu Leu Asn Ile Val Cys Ala Tyr Asp Pro Val
225                 230                 235                 240

Gly Tyr Gly Leu Pro Tyr Asn Tyr Leu Leu Phe Asn Asp Ser Arg Glu
                245                 250                 255

Pro Leu Val Glu Ile Ala Leu Gln Val Leu Ile Val Cys Leu Asp Lys
            260                 265                 270

Glu Thr Gln Pro Asn Thr Asp Asp Ser Gly Tyr Lys Asp Asn Tyr Phe
        275                 280                 285

Ile Asn Tyr Leu Ser Arg Ile His Arg Glu Glu Asp Phe Asp Phe Met
    290                 295                 300

Leu Lys Gly Ile Thr Arg Leu Leu Ser Asn Pro Ile His Ser Ser Ser
305                 310                 315                 320

Ser Tyr Leu Pro Asn Ser Thr Lys Arg Val Asn Phe His Gln Glu Leu
                325                 330                 335

Leu Val Leu Leu Trp Lys Cys Cys Glu Ile Asn Gln Lys Phe Met Phe
            340                 345                 350

Tyr Val Leu Lys Thr Ser Asp Val Leu Asp Ile Leu Val Pro Ile Leu
        355                 360                 365

Tyr His Ile Ser Asp Ala Arg Asn Asp Ser Gly Arg Val Gly Leu Ile
    370                 375                 380

His Met Gly Val Phe Ile Ile Leu Leu Leu Ser Gly Glu Arg Asn Phe
385                 390                 395                 400
```

Gly Val Arg Leu Asn Lys Pro Tyr Thr Ala Lys Ala Asn Ile Asn Val
405 410 415

Gln Thr Phe Thr Gly Thr His Ala Asp Leu Leu Ile Leu Val Ile His
420 425 430

Lys Leu Ile Thr Thr Gly Asn Tyr Arg Leu Gln Thr Leu Phe Asp Cys
435 440 445

Phe Leu Thr Ile Met Val Asn Val Ser Pro Tyr Met Lys Ser Leu Ser
450 455 460

Met Val Ala Ala Asn Lys Leu Val His Leu Val Glu Ala Phe Ser Thr
465 470 475 480

Pro Trp Phe Leu Phe Ser Ser Pro Thr Asn Pro Gln Leu Val Phe Ser
485 490 495

Leu Leu Glu Val Phe Asn Asn Val Ile Gln Tyr Gln Phe Asp Gly Asn
500 505 510

Ser Asn Leu Ile Tyr Thr Ile Ile Arg Lys Arg Asn Val Phe Tyr Gln
515 520 525

Leu Ser Asn Leu Ser Thr Asp Ala Ala Ser Ile Ala Lys Thr Leu Ser
530 535 540

Gly Arg Lys Ser Lys Ser Ala Asn Arg Asp Glu Met Val Asp Gln Leu
545 550 555 560

Lys Ser Pro Thr Ser Thr Ala Pro Pro Glu Ile Pro Ala Ala Asp Ala
565 570 575

Pro Ala Ala Gln Thr Leu Gly Gly Val Ser Thr Thr Thr Gly Leu Ala
580 585 590

Ala Thr Pro Ala Leu Ala Ser Met Thr Gly Asn Val Gly Asn Trp Glu
595 600 605

Glu Arg Pro Glu Ser Ser Gln Asp Asn Glu Trp Ile Ala Thr Gln Glu
610 615 620

Trp Ala Asp Ala Trp Lys Ser Lys Leu Pro Leu Gln Thr Ile Met Arg
625 630 635 640

Leu Leu Gln Val Leu Val Pro Gln Val Glu Lys Ile Cys Ile Asp Lys
645 650 655

Gly Leu Thr Asp Glu Ser Glu Ile Leu Lys Phe Leu Gln His Gly Thr
660 665 670

Leu Val Gly Leu Leu Pro Val Pro His Pro Ile Val Ile Arg Arg Tyr
675 680 685

Gln Thr Asn Ile Gly Thr Asn His Trp Phe Arg Ile Tyr Met Trp Gly
690 695 700

```
Val Ile Tyr Leu Lys His Thr Gln Pro Pro Ile Trp Tyr Asp Thr Asp
705                 710                 715                 720

Val Lys Leu Phe Glu Val Gln Arg Ala
                725
```

<210> 57
<211> 380
<212> PRT
<213> Homo sapiens

<400> 57

```
Met Gly Ser Thr Asp Ser Lys Leu Asn Phe Arg Lys Ala Val Ile Gln
  1               5                  10                  15

Leu Thr Thr Lys Thr Gln Pro Val Glu Ala Thr Asp Asp Ala Phe Trp
             20                  25                  30

Asp Gln Phe Trp Ala Asp Thr Ala Thr Ser Val Gln Asp Val Phe Ala
         35                  40                  45

Leu Val Pro Ala Ala Glu Ile Arg Ala Val Arg Glu Glu Ser Pro Ser
     50                  55                  60

Asn Leu Ala Thr Leu Cys Tyr Lys Ala Val Glu Lys Leu Val Gln Gly
 65                  70                  75                  80

Ala Glu Ser Gly Cys His Ser Glu Lys Glu Lys Gln Ile Val Leu Asn
                 85                  90                  95

Cys Ser Arg Leu Leu Thr Arg Val Leu Pro Tyr Ile Phe Glu Asp Pro
            100                 105                 110

Asp Trp Arg Gly Phe Phe Trp Ser Thr Val Pro Gly Ala Gly Arg Gly
        115                 120                 125

Gly Gly Glu Glu Asp Asp Glu His Ala Arg Pro Leu Ala Glu Ser Leu
    130                 135                 140

Leu Leu Ala Ile Ala Asp Leu Leu Phe Cys Pro Asp Phe Thr Val Gln
145                 150                 155                 160

Ser His Arg Arg Ser Thr Val Asp Ser Ala Glu Asp Val His Ser Leu
                165                 170                 175

Asp Ser Cys Glu Tyr Ile Trp Glu Ala Gly Val Gly Phe Ala His Ser
            180                 185                 190

Pro Gln Pro Asn Tyr Ile His Asp Met Asn Arg Met Glu Leu Leu Lys
        195                 200                 205

Leu Leu Leu Thr Cys Phe Ser Glu Ala Met Tyr Leu Pro Pro Ala Pro
    210                 215                 220

Glu Ser Gly Ser Thr Asn Pro Trp Val Gln Phe Phe Cys Ser Thr Glu
```

```
225                 230                 235                 240

Asn Arg His Ala Leu Pro Leu Phe Thr Ser Leu Leu Asn Thr Val Cys
                245                 250                 255

Ala Tyr Asp Pro Val Gly Tyr Gly Ile Pro Tyr Asn His Leu Leu Phe
            260                 265                 270

Ser Asp Tyr Arg Glu Pro Leu Val Glu Glu Ala Ala Gln Val Leu Ile
        275                 280                 285

Val Thr Leu Asp His Asp Ser Ala Ser Ser Ala Ser Pro Thr Val Asp
    290                 295                 300

Gly Thr Thr Thr Gly Thr Ala Met Asp Asp Ala Asp Pro Pro Gly Pro
305                 310                 315                 320

Glu Asn Leu Phe Val Asn Tyr Leu Ser Arg Ile His Arg Glu Glu Asp
                325                 330                 335

Phe Gln Phe Ile Leu Lys Gly Ile Ala Arg Leu Leu Ser Asn Leu Leu
            340                 345                 350

Leu Gln Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys
        355                 360                 365

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys
    370                 375                 380
```

<210> 58
<211> 235
<212> PRT
<213> Schizosaccharomyces pombe

<400> 58

```
Asn Thr Leu Gly Pro Val Thr Ile Lys Leu Ala Cys Gly Thr Glu Phe
  1               5                  10                  15

Ser Phe Met Lys Pro Ala Cys Phe Leu Lys Asn Val Ala Ile Gly Glu
             20                  25                  30

Lys Tyr Val Glu Pro Tyr Asp His Met Glu Ile Val Asp Glu Thr Thr
         35                  40                  45

Gly Asp Lys Ala Val Ile Arg Phe Lys Ser Gly Gly Met Phe Ser Gly
     50                  55                  60

Arg Ser Glu Asp Val Leu Val Thr Val Ile Arg Ser Asn Gly Glu Glu
 65                  70                  75                  80

Asp Pro Lys Cys Leu Gln Gly Lys Trp Thr Ser His Leu Asp Phe Val
                 85                  90                  95

Asn Thr Asp Glu Gly Asn Val Ile Glu Arg Ile Trp Glu Val Gly Pro
            100                 105                 110
```

```
Leu Val Asp Lys Pro Glu Asp His Cys Gly Met Thr Val Phe Ala Ala
        115                 120                 125

Gln Met Asn Glu Ile Thr Asp Leu Glu Lys Asp Lys Leu Pro Pro Thr
    130                 135                 140

Asp Thr Arg Leu Arg Pro Asp Gln Arg Tyr Arg Glu Asn Asn Asp Leu
145                 150                 155                 160

Asp His Ala Glu Pro Leu Lys Leu Glu Leu Glu Gln Lys Gln Arg Glu
                165                 170                 175

Arg Arg Lys Glu Met Glu Glu Lys Asp Ile Lys Trp Glu Pro Arg Trp
            180                 185                 190

Phe Val Pro Ser Val Ala Gly Asp Asp Glu Asp Glu Asp Gly Ser Gly
        195                 200                 205

Pro Ile Trp Gln Leu Lys Lys Glu Asn Asn Tyr Trp Glu Ser Arg Glu
    210                 215                 220

Asn Ser Thr Trp Ser Ser Cys Pro Lys Leu Trp
225                 230                 235
```

<210> 59
<211> 925
<212> PRT
<213> Schizosaccharomyces pombe

<400> 59

```
Met Gly Gly Gln Glu Ser Lys Leu Ala Phe Gln Arg Gly Ile Ala Arg
  1               5                  10                  15

Leu Ala Ser Gln Pro Asp Ile Pro Leu Asp Asp Glu Val Trp Val Ser
             20                  25                  30

Leu Trp Ser Val Pro Glu Ser Cys Pro Glu Val Tyr Asp Phe Phe Pro
         35                  40                  45

Pro Gly Leu Ile Arg Glu Met Arg Asp His Ala Phe Val Asn Leu Glu
     50                  55                  60

Lys Leu Leu Leu Val Leu Thr Ser Arg Leu Phe Ala Leu Lys Asn Asp
 65                  70                  75                  80

Lys Lys Phe Pro Asn Pro Glu Thr Ala Pro Ala Ser Glu Ala Leu Asn
                85                  90                  95

Cys Ile Arg Leu Leu Thr Arg Ile Ile Pro Phe Leu Asn Glu Lys Leu
            100                 105                 110

Asp Leu Glu Glu Trp His Gln Lys Phe Trp Trp Ser Leu Arg Lys Lys
        115                 120                 125

Arg Asn Leu Pro Lys Glu Asn Ser Glu Leu Asp Leu Ser Asn Phe Gln
    130                 135                 140
```

```
Asp Asp Leu Asp Phe Glu Asn Ser Ile Ser Gln Lys Asn Glu Phe Ser
145                 150                 155                 160

Gln Lys Ser Pro Ser Val Pro Leu Ser Pro Val Ser Thr Phe Pro Ala
                165                 170                 175

Ser Ser Ile Ser Leu Asp Ala Ser Ser Asp Val Ser Ala Ala Asp Val
            180                 185                 190

Ser Val Gly Gly Ser Ser Thr Ile Lys Glu Ile Gly Ser Ile Glu Glu
        195                 200                 205

Thr Phe Thr His Glu Lys Thr Leu Met Glu Glu Leu Leu Asp Thr Val
    210                 215                 220

Phe Arg Leu Leu Phe Cys Arg Gly Phe Thr Leu Pro Leu Ser Ser Pro
225                 230                 235                 240

Glu Gln Tyr Ala Tyr Ile Ile Trp Glu Asn Gly Ile Gly Thr Thr Glu
                245                 250                 255

Thr Gln Glu Lys Thr Thr Lys Glu Leu Ala Phe Asn Arg Ile Glu Val
            260                 265                 270

Leu Arg Leu Leu Leu Val Leu Ile Ser Lys Arg Leu Tyr Arg Ser Ser
        275                 280                 285

Glu Val Ala Ser His Thr Leu Thr Tyr Leu Thr Cys Val Ala Asn Lys
    290                 295                 300

Gln Leu Ile Leu Val Phe Leu Tyr Ser Leu Ile Asn Thr Thr Leu Arg
305                 310                 315                 320

Leu Arg Pro Asp Ser Trp Lys Ala Ser Tyr Ser Thr Leu Val Pro Tyr
                325                 330                 335

Asn Asp Ser Ser Ile Ala Leu Ser Lys Leu Thr Ser Gln Ile Leu Leu
            340                 345                 350

Leu Phe Leu Asp His Thr Pro His Glu Thr Thr Val Glu Tyr Phe Arg
        355                 360                 365

Gln Arg Leu Asn Leu Ser Pro Gly Ala Ala Ile Glu Asn Gln Tyr Arg
    370                 375                 380

Leu Tyr Phe Ser Arg Leu Gln Leu Gln Ala Asp Tyr Glu Phe Leu Val
385                 390                 395                 400

Asn Glu Leu Tyr Arg Leu Leu Asn Ala Pro Val Ser Ala Ile Ser Ala
                405                 410                 415

Tyr Ile Ser Ile Val Gln Lys Pro Asn Ile Ala Phe Pro Glu Ile Ile
            420                 425                 430

Leu Phe Leu Trp Gln Ala Ile Leu Tyr Asn Lys Arg Phe Arg Ala Phe
        435                 440                 445
```

```
Leu Ile Thr Ser Pro Tyr Ala Thr Glu Phe Leu Thr Ser Ile Gln Phe
    450                 455                 460

Tyr Ala Leu Arg Tyr Arg Glu Asp Asn Glu His Ser Gly Leu Val Arg
465                 470                 475                 480

Ile Cys Leu Phe Ile Val His Tyr Leu Ser Cys Glu Lys Val Leu Cys
                485                 490                 495

Glu Lys Leu Asn Arg Asn Cys Met Asn Ala Gln Ser Leu Met Ser Ser
            500                 505                 510

Leu Gly Phe Ser Val Pro Pro Met Ser Tyr Ala Glu Phe Leu Ile Ile
        515                 520                 525

Ser Ser Phe His Ile Ser Ala Val Lys Arg Ser Pro Phe Ser Ser Leu
    530                 535                 540

Ser Pro Val Ile Leu Leu Thr Ile Cys Asn Ile Ala Pro Phe Val Glu
545                 550                 555                 560

Asn Leu Ser Phe Val Thr Cys Ala Lys Leu Met Gln Leu Cys Ser Ser
                565                 570                 575

Leu Ser Ser Pro Arg Phe Leu Phe Arg Asn Pro Arg Asn His Leu Leu
            580                 585                 590

Leu Glu Tyr Leu Leu Gln Ala Ile Ser Ser Ile Val Glu Asn Lys Phe
        595                 600                 605

Ser Gln Asn Pro Asn Leu Ser Tyr Ser Ile Ile Arg Leu Gln Gln Val
    610                 615                 620

Phe Leu Asn Leu Asn Ser Met Lys Leu Pro Ala Val Ala Gln Thr Lys
625                 630                 635                 640

Ser Gln Pro Leu Val Ala Leu Asn Ser Glu Gly Ser Ser Asp Phe Glu
                645                 650                 655

Ser Lys Ser Ser Asp Asn Thr Ser Leu Asp Gly Thr Pro Leu Gln Asn
            660                 665                 670

Thr Asp Phe Lys Lys Val Ala Thr Val Glu Asp Asp Ser Pro Phe Asp
        675                 680                 685

Glu Leu Asp Lys Phe Ser Ser Pro Phe Ser Ser Ser Ser Ser Arg Gly
    690                 695                 700

Gly Leu Ser His Ile Ser Ser Arg Asn Val Ser Ile Ser Val Pro Thr
705                 710                 715                 720

Val Leu Gln Asp Val Phe Ser Asp Ser Pro Leu Val Leu Ser Arg Lys
                725                 730                 735

Leu Arg Gly Lys Ile Pro Glu Asn Val Ser Ser Ser Glu Leu Ile Lys
            740                 745                 750
```

```
Lys Cys Ala Ser Asn Pro Phe Gly Lys Asp Leu Glu Ile Asp Ser Asn
        755                 760                 765

Leu Phe Ala Pro Ser Asn Ser Trp Phe Asn Ser Trp His Ser Arg Leu
    770                 775                 780

Glu Leu Asp Ser Ile Leu Ala Ile Ile Ser Gln Phe Ser Leu Pro Val
785                 790                 795                 800

Tyr Lys Lys Met Asn Glu Glu Leu Ser Thr Thr Asp Glu Ala Val Lys
                805                 810                 815

Leu Leu Ala Asn Ser Val Leu Asn Asp Val His Pro Arg Val Pro Asn
            820                 825                 830

Phe Arg Tyr Phe Ile Trp Ser Val Pro Met Asn Asn Trp Phe Gln Ser
        835                 840                 845

Leu Val Trp Leu Tyr Thr Leu Ser Phe Asp Glu Lys Gly Leu Met Ala
    850                 855                 860

Thr Pro Ser Leu Phe Thr Thr Ser Lys Val Tyr Lys Gln His Gly Asn
865                 870                 875                 880

Ile Met Lys Val Ala Ser Pro Glu Asn Ser Ser Asn Ser Met Glu Asn
                885                 890                 895

Ala Thr Lys Ser Ile Leu Asp Lys Leu Asp Leu Leu Tyr Leu Gln Leu
            900                 905                 910

Pro Ser Ser Val Asn His Asp Ser Ser Leu Arg Asn Lys
        915                 920                 925


<210> 60
<211> 403
<212> PRT
<213> Rattus norvegicus

<400> 60
Met Tyr Arg Asp Pro Glu Ala Ala Ser Pro Gly Ala Pro Thr Arg Asp
  1               5                  10                  15

Val Leu Leu Val Ser Ala Ile Ile Thr Val Ser Leu Ser Val Thr Ile
            20                  25                  30

Val Leu Cys Gly Leu Cys His Trp Cys Gln Arg Lys Leu Gly Lys Arg
        35                  40                  45

Tyr Lys Asn Ser Leu Glu Thr Val Gly Thr Pro Asp Ser Gly Arg Gly
    50                  55                  60

Arg Gly Glu Lys Lys Ala Ile Lys Leu Pro Ala Gly Gly Lys Ala Val
65                  70                  75                  80

Asn Thr Ala Pro Val Pro Gly Gln Thr Pro His Asp Glu Ser Asp Arg
```

```
                85                  90                  95

Arg Thr Glu Pro Arg Ser Ser Val Ser Asp Leu Val Asn Ser Leu Thr
            100                 105                 110

Ser Glu Met Leu Met Leu Ser Pro Gly Ser Glu Glu Asp Glu Ala His
        115                 120                 125

Glu Gly Cys Ser Arg Glu Asn Leu Gly Arg Ile Gln Phe Ser Val Gly
    130                 135                 140

Tyr Asn Phe Gln Glu Ser Thr Leu Thr Val Lys Val Met Lys Ala Gln
145                 150                 155                 160

Glu Leu Pro Ala Lys Asp Phe Ser Gly Thr Ser Asp Pro Phe Val Lys
                165                 170                 175

Ile Tyr Leu Leu Pro Asp Lys Lys His Lys Leu Glu Thr Lys Val Lys
            180                 185                 190

Arg Lys Asn Leu Asn Pro His Trp Asn Glu Thr Phe Leu Phe Glu Gly
        195                 200                 205

Phe Pro Tyr Glu Lys Val Val Gln Arg Ile Leu Tyr Leu Gln Val Leu
    210                 215                 220

Asp Tyr Asp Arg Phe Ser Arg Asn Asp Pro Ile Gly Glu Val Ser Ile
225                 230                 235                 240

Pro Leu Asn Lys Val Asp Leu Thr Gln Met Gln Thr Phe Trp Lys Asp
                245                 250                 255

Leu Lys Pro Cys Ser Asp Gly Ser Gly Ser Arg Gly Glu Leu Leu Leu
            260                 265                 270

Ser Leu Cys Tyr Asn Pro Ser Ala Asn Ser Ile Ile Val Asn Ile Ile
        275                 280                 285

Lys Ala Arg Asn Leu Lys Ala Met Asp Ile Gly Gly Thr Ser Asp Pro
    290                 295                 300

Tyr Val Lys Val Trp Leu Met Tyr Lys Asp Lys Arg Val Glu Lys Lys
305                 310                 315                 320

Lys Thr Val Thr Lys Lys Arg Asn Leu Asn Pro Ile Phe Asn Glu Ser
                325                 330                 335

Phe Ala Phe Asp Ile Pro Thr Glu Lys Leu Arg Glu Thr Thr Ile Ile
            340                 345                 350

Ile Thr Val Met Asp Lys Asp Lys Leu Ser Arg Asn Asp Val Ile Gly
        355                 360                 365

Lys Ile Tyr Leu Ser Trp Lys Ser Gly Pro Gly Glu Val Lys His Trp
    370                 375                 380

Lys Asp Met Ile Ala Arg Pro Arg Gln Pro Val Ala Gln Trp His Gln
```

385 390 395 400

Leu Lys Ala

<210> 61
<211> 403
<212> PRT
<213> Mus musculus

<400> 61
Met Tyr Arg Asp Pro Glu Ala Ala Ser Pro Gly Ala Pro Thr Arg Asp
1 5 10 15

Val Leu Leu Val Ser Ala Ile Ile Thr Val Ser Leu Ser Val Thr Ile
20 25 30

Val Leu Cys Gly Leu Cys His Trp Cys Gln Arg Lys Leu Gly Lys Arg
35 40 45

Tyr Lys Asn Ser Leu Glu Thr Val Gly Thr Pro Asp Ser Gly Arg Gly
50 55 60

Arg Gly Glu Lys Lys Ala Ile Lys Leu Pro Ala Gly Gly Lys Ala Val
65 70 75 80

Asn Thr Ala Pro Val Pro Gly Gln Thr Pro His Asp Glu Ser Asp Arg
85 90 95

Arg Thr Glu Thr Arg Ser Ser Val Ser Asp Leu Val Asn Ser Leu Thr
100 105 110

Ser Glu Met Leu Met Leu Ser Pro Gly Ser Glu Glu Asp Glu Ala His
115 120 125

Glu Gly Cys Ser Arg Glu Asn Leu Gly Arg Ile Gln Phe Ser Val Gly
130 135 140

Tyr Asn Phe Gln Glu Ser Thr Leu Thr Val Lys Val Met Lys Ala Gln
145 150 155 160

Glu Leu Pro Ala Lys Asp Phe Ser Gly Thr Ser Asp Pro Phe Val Lys
165 170 175

Ile Tyr Leu Leu Pro Asp Lys Lys His Lys Leu Glu Thr Lys Val Lys
180 185 190

Arg Lys Asn Leu Asn Pro His Trp Asn Glu Thr Phe Leu Phe Glu Gly
195 200 205

Phe Pro Tyr Glu Lys Val Val Gln Arg Val Leu Tyr Leu Gln Val Leu
210 215 220

Asp Tyr Asp Arg Phe Ser Arg Asn Asp Pro Ile Gly Glu Val Ser Ile
225 230 235 240

```
Pro Leu Asn Lys Val Asp Leu Thr Gln Met Gln Thr Phe Trp Lys Asp
                245                 250                 255

Leu Lys Pro Cys Ser Asp Gly Ser Gly Ser Arg Gly Glu Leu Leu Leu
            260                 265                 270

Ser Leu Cys Tyr Asn Pro Ser Ala Asn Ser Ile Ile Val Asn Ile Ile
        275                 280                 285

Lys Ala Arg Asn Leu Lys Ala Met Asp Ile Gly Gly Thr Ser Asp Pro
    290                 295                 300

Tyr Val Lys Val Trp Leu Met Tyr Lys Asp Lys Arg Val Glu Lys Lys
305                 310                 315                 320

Lys Thr Val Thr Lys Lys Arg Asn Leu Asn Pro Ile Phe Asn Glu Ser
                325                 330                 335

Phe Ala Phe Asp Ile Pro Thr Glu Lys Leu Arg Glu Thr Thr Ile Ile
            340                 345                 350

Ile Thr Val Met Asp Lys Asp Lys Leu Ser Arg Asn Asp Val Ile Gly
        355                 360                 365

Lys Ile Tyr Leu Ser Trp Lys Ser Gly Pro Gly Glu Val Lys His Trp
    370                 375                 380

Lys Asp Met Ile Ala Arg Pro Arg Gln Pro Val Ala Gln Trp His Gln
385                 390                 395                 400

Leu Lys Ala
```

<210> 62
<211> 704
<212> PRT
<213> Rattus norvegicus

<400> 62

```
Met Ile Thr Leu Cys Leu Ser Thr Leu Arg Gly Leu His Arg Ala Gly
  1               5                  10                  15

Gly Ser Arg Leu Gln Leu Thr Met Thr Leu Gly Lys Glu Leu Ala Ser
             20                  25                  30

Pro Leu Gln Ala Met Ser Ser Tyr Thr Ala Ala Gly Arg Asn Val Leu
         35                  40                  45

Arg Trp Asp Leu Ser Pro Glu Gln Ile Lys Thr Arg Thr Glu Gln Leu
     50                  55                  60

Ile Ala Gln Thr Lys Gln Val Tyr Asp Thr Val Gly Thr Ile Ala Leu
 65                  70                  75                  80

Lys Glu Val Thr Tyr Glu Asn Cys Leu Gln Val Leu Ala Asp Ile Glu
                 85                  90                  95
```

```
Val Thr Tyr Ile Val Glu Arg Thr Met Leu Asp Phe Pro Gln His Val
            100                 105                 110

Ser Ser Asp Arg Glu Val Arg Ala Ala Ser Thr Glu Ala Asp Lys Lys
        115                 120                 125

Leu Ser Arg Phe Asp Ile Glu Met Ser Met Arg Glu Asp Val Phe Gln
    130                 135                 140

Arg Ile Val His Leu Gln Glu Thr Cys Asp Leu Glu Lys Ile Lys Pro
145                 150                 155                 160

Glu Ala Arg Arg Tyr Leu Glu Lys Ser Ile Lys Met Gly Lys Arg Asn
                165                 170                 175

Gly Leu His Leu Ser Glu His Ile Arg Asn Glu Ile Lys Ser Met Lys
            180                 185                 190

Lys Arg Met Ser Glu Leu Cys Ile Asp Phe Asn Lys Asn Leu Asn Glu
        195                 200                 205

Asp Asp Thr Ser Leu Val Phe Ser Lys Ala Glu Leu Gly Ala Leu Pro
    210                 215                 220

Asp Asp Phe Ile Asp Ser Leu Glu Lys Thr Asp Glu Asp Lys Tyr Lys
225                 230                 235                 240

Val Thr Leu Lys Tyr Pro His Tyr Phe Pro Val Met Lys Lys Cys Cys
                245                 250                 255

Val Pro Glu Thr Arg Arg Lys Met Glu Met Ala Phe His Thr Arg Cys
            260                 265                 270

Lys Gln Glu Asn Thr Ala Ile Leu Gln Gln Leu Leu Pro Leu Arg Ala
        275                 280                 285

Gln Val Ala Lys Leu Leu Gly Tyr Asn Thr His Ala Asp Phe Val Leu
    290                 295                 300

Glu Leu Asn Thr Ala Lys Ser Thr Ser Arg Val Ala Ala Phe Leu Asp
305                 310                 315                 320

Asp Leu Ser Gln Lys Leu Lys Pro Leu Gly Glu Ala Glu Arg Glu Phe
                325                 330                 335

Ile Leu Ser Leu Lys Lys Lys Glu Cys Glu Glu Arg Gly Phe Glu Tyr
            340                 345                 350

Asp Gly Lys Ile Asn Ala Trp Asp Leu His Tyr Tyr Met Thr Gln Thr
        355                 360                 365

Glu Glu Leu Lys Tyr Ser Val Asp Gln Glu Ser Leu Lys Glu Tyr Phe
    370                 375                 380

Pro Ile Glu Val Val Thr Glu Gly Leu Leu Ser Ile Tyr Gln Glu Leu
385                 390                 395                 400
```

```
Leu Gly Leu Ser Phe Glu Gln Val Pro Asp Ala His Val Trp Asn Lys
                405                 410                 415

Ser Val Ser Leu Tyr Thr Val Lys Asp Lys Ala Thr Gly Glu Val Leu
            420                 425                 430

Gly Gln Phe Tyr Leu Asp Leu Tyr Pro Arg Glu Gly Lys Tyr Asn His
        435                 440                 445

Ala Ala Cys Phe Gly Leu Gln Pro Gly Cys Leu Leu Pro Asp Gly Ser
    450                 455                 460

Arg Met Met Ser Val Ala Ala Leu Val Val Asn Phe Ser Gln Pro Val
465                 470                 475                 480

Ala Gly Arg Pro Ser Leu Leu Arg His Asp Glu Val Arg Thr Tyr Phe
                485                 490                 495

His Glu Phe Gly His Val Met His Gln Ile Cys Ala Gln Thr Asp Phe
            500                 505                 510

Ala Arg Phe Ser Gly Thr Asn Val Glu Thr Asp Phe Val Glu Val Pro
        515                 520                 525

Ser Gln Met Leu Glu Asn Trp Val Trp Asp Val Asp Ser Leu Arg Lys
    530                 535                 540

Leu Ser Lys His Tyr Lys Asp Gly His Pro Ile Thr Asp Glu Leu Leu
545                 550                 555                 560

Glu Lys Leu Val Ala Ser Arg Leu Val Asn Thr Gly Leu Leu Thr Leu
                565                 570                 575

Arg Gln Ile Val Leu Ser Lys Val Asp Gln Ser Leu His Thr Asn Ala
            580                 585                 590

Thr Leu Asp Ala Ala Ser Glu Tyr Ala Lys Tyr Cys Thr Glu Ile Leu
        595                 600                 605

Gly Val Ala Ala Thr Pro Gly Thr Asn Met Pro Ala Thr Phe Gly His
    610                 615                 620

Leu Ala Gly Gly Tyr Asp Gly Gln Tyr Tyr Gly Tyr Leu Trp Ser Glu
625                 630                 635                 640

Val Phe Ser Met Asp Met Phe His Ser Cys Phe Lys Lys Glu Gly Ile
                645                 650                 655

Met Asn Pro Glu Val Gly Met Lys Tyr Arg Asn Leu Ile Leu Lys Pro
            660                 665                 670

Gly Gly Ser Leu Asp Gly Met Asp Met Leu Gln Asn Phe Leu Gln Arg
        675                 680                 685

Glu Pro Asn Gln Lys Ala Phe Leu Met Ser Arg Gly Leu Asn Gly Ser
    690                 695                 700
```

<210> 63
<211> 520
<212> PRT
<213> Rattus norvegicus

<400> 63
Met Tyr Arg Asp Pro Glu Ala Ala Ser Pro Gly Ala Pro Thr Arg Asp
1 5 10 15

Val Leu Leu Val Ser Ala Ile Ile Thr Val Ser Leu Ser Val Thr Ile
20 25 30

Val Leu Cys Gly Leu Cys His Trp Cys Gln Arg Lys Leu Gly Lys Arg
35 40 45

Tyr Lys Asn Ser Leu Glu Thr Val Gly Thr Pro Asp Ser Gly Arg Gly
50 55 60

Arg Gly Glu Lys Lys Ala Ile Asn Gly Thr Leu Leu Ser Gly Ala Lys
65 70 75 80

Val Ala Thr Ala Ala Ala Gly Leu Ala Val Glu Arg Glu Gly Arg Leu
85 90 95

Gly Glu Lys Pro Ala Pro Val Pro Pro Pro Gly Glu Asp Ala Leu Arg
100 105 110

Ser Gly Gly Ala Ala Pro Ser Glu Pro Gly Ser Ser Gly Lys Ala Gly
115 120 125

Arg Gly Arg Trp Arg Met Val Gln Ser His Leu Ala Ala Gly Lys Leu
130 135 140

Asn Leu Ser Lys Glu Gly Arg Met Val Val Leu Ser Leu Val Leu Gly
145 150 155 160

Leu Ser Glu Gln Asp Asp Phe Ala Asn Ile Pro Asp Leu Gln Asn Pro
165 170 175

Gly Thr Gln Gln Asn Gln Asn Ala Gln Gly Asp Lys Arg Leu Pro Ala
180 185 190

Gly Gly Lys Ala Val Asn Thr Ala Pro Val Pro Gly Gln Thr Pro His
195 200 205

Asp Glu Ser Asp Arg Arg Thr Glu Pro Arg Ser Ser Val Ser Asp Leu
210 215 220

Val Asn Ser Leu Thr Ser Glu Met Leu Met Leu Ser Pro Gly Ser Glu
225 230 235 240

Glu Asp Glu Ala His Glu Gly Cys Ser Arg Glu Asn Leu Gly Arg Ile

```
                245                 250                 255

Gln Phe Ser Val Gly Tyr Asn Phe Gln Glu Ser Thr Leu Thr Val Lys
            260                 265                 270

Val Met Lys Ala Gln Glu Leu Pro Ala Lys Asp Phe Ser Gly Thr Ser
        275                 280                 285

Asp Pro Phe Val Lys Ile Tyr Leu Leu Pro Asp Lys Lys His Lys Leu
    290                 295                 300

Glu Thr Lys Val Lys Arg Lys Asn Leu Asn Pro His Trp Asn Glu Thr
305                 310                 315                 320

Phe Leu Phe Glu Gly Phe Pro Tyr Glu Lys Val Val Gln Arg Ile Leu
                325                 330                 335

Tyr Leu Gln Val Leu Asp Tyr Asp Arg Phe Ser Arg Asn Asp Pro Ile
            340                 345                 350

Gly Glu Val Ser Ile Pro Leu Asn Lys Val Asp Leu Thr Gln Met Gln
        355                 360                 365

Thr Phe Trp Lys Asp Leu Lys Pro Cys Ser Asp Gly Ser Gly Ser Arg
    370                 375                 380

Gly Glu Leu Leu Leu Ser Leu Cys Tyr Asn Pro Ser Ala Asn Ser Ile
385                 390                 395                 400

Ile Val Asn Ile Ile Lys Ala Arg Asn Leu Lys Ala Met Asp Ile Gly
                405                 410                 415

Gly Thr Ser Asp Pro Tyr Val Lys Val Trp Leu Met Tyr Lys Asp Lys
            420                 425                 430

Arg Val Glu Lys Lys Lys Thr Val Thr Lys Lys Arg Asn Leu Asn Pro
        435                 440                 445

Ile Phe Asn Glu Ser Phe Ala Phe Asp Ile Pro Thr Glu Lys Leu Arg
    450                 455                 460

Glu Thr Thr Ile Ile Ile Thr Val Met Asp Lys Asp Lys Leu Ser Arg
465                 470                 475                 480

Asn Asp Val Ile Gly Lys Ile Tyr Leu Ser Trp Lys Ser Gly Pro Gly
                485                 490                 495

Glu Val Lys His Trp Lys Asp Met Ile Ala Arg Pro Arg Gln Pro Val
            500                 505                 510

Ala Gln Trp His Gln Leu Lys Ala
        515                 520
```

<210> 64
<211> 643
<212> PRT

<213> Rattus norvegicus

<400> 64

```
Met Tyr Arg Asp Pro Glu Ala Ala Ser Pro Gly Ala Pro Thr Arg Asp
  1               5                  10                  15

Val Leu Leu Val Ser Ala Ile Ile Thr Val Ser Leu Ser Val Thr Ile
             20                  25                  30

Val Leu Cys Gly Leu Cys His Trp Cys Gln Arg Lys Leu Gly Lys Arg
         35                  40                  45

Tyr Lys Asn Ser Leu Glu Thr Val Gly Thr Pro Asp Ser Gly Arg Gly
     50                  55                  60

Arg Gly Glu Lys Lys Ala Ile Asn Gly Thr Leu Leu Ser Gly Ala Lys
 65                  70                  75                  80

Val Ala Thr Ala Ala Ala Gly Leu Ala Val Glu Arg Glu Gly Arg Leu
                 85                  90                  95

Gly Glu Lys Pro Ala Pro Val Pro Pro Pro Gly Glu Asp Ala Leu Arg
            100                 105                 110

Ser Gly Gly Ala Ala Pro Ser Glu Pro Gly Ser Ser Gly Lys Ala Gly
        115                 120                 125

Arg Gly Arg Trp Arg Met Val Gln Ser His Leu Ala Ala Gly Lys Leu
    130                 135                 140

Asn Leu Ser Asn Phe Glu Asp Ser Thr Leu Ser Thr Ala Thr Thr Leu
145                 150                 155                 160

Glu Ser Ile Pro Ser Ser Ala Gly Glu Pro Lys Cys Gln Arg Pro Arg
                165                 170                 175

Thr Leu Met Arg Gln Gln Ser Leu Gln Gln Pro Leu Ser Gln Asn Gln
            180                 185                 190

Arg Gly Arg Gln Pro Ser Gln Pro Thr Thr Ser Gln Ser Leu Gly Gln
        195                 200                 205

Leu Gln Ala His Ala Ala Ser Ala Pro Gly Ser Asn Pro Arg Ala Tyr
    210                 215                 220

Gly Arg Gly Gln Ala Arg Gln Gly Thr Ser Ala Gly Ser Lys Tyr Arg
225                 230                 235                 240

Ala Ala Gly Gly Arg Ser Arg Ser Asn Pro Gly Ser Trp Asp His Val
                245                 250                 255

Val Gly Gln Ile Arg Asn Arg Gly Leu Asp Met Lys Ser Phe Leu Glu
            260                 265                 270

Gly Arg Met Val Val Leu Ser Leu Val Leu Gly Leu Ser Glu Gln Asp
        275                 280                 285
```

```
Asp Phe Ala Asn Ile Pro Asp Leu Gln Asn Pro Gly Thr Gln Gln Asn
    290                 295                 300

Gln Asn Ala Gln Gly Asp Lys Arg Leu Pro Ala Gly Gly Lys Ala Val
305                 310                 315                 320

Asn Thr Ala Pro Val Pro Gly Gln Thr Pro His Asp Glu Ser Asp Arg
                325                 330                 335

Arg Thr Glu Pro Arg Ser Ser Val Ser Asp Leu Val Asn Ser Leu Thr
            340                 345                 350

Ser Glu Met Leu Met Leu Ser Pro Gly Ser Glu Glu Asp Glu Ala His
        355                 360                 365

Glu Gly Cys Ser Arg Glu Asn Leu Gly Arg Ile Gln Phe Ser Val Gly
    370                 375                 380

Tyr Asn Phe Gln Glu Ser Thr Leu Thr Val Lys Val Met Lys Ala Gln
385                 390                 395                 400

Glu Leu Pro Ala Lys Asp Phe Ser Gly Thr Ser Asp Pro Phe Val Lys
                405                 410                 415

Ile Tyr Leu Leu Pro Asp Lys Lys His Lys Leu Glu Thr Lys Val Lys
            420                 425                 430

Arg Lys Asn Leu Asn Pro His Trp Asn Glu Thr Phe Leu Phe Glu Gly
        435                 440                 445

Phe Pro Tyr Glu Lys Val Val Gln Arg Ile Leu Tyr Leu Gln Val Leu
    450                 455                 460

Asp Tyr Asp Arg Phe Ser Arg Asn Asp Pro Ile Gly Glu Val Ser Ile
465                 470                 475                 480

Pro Leu Asn Lys Val Asp Leu Thr Gln Met Gln Thr Phe Trp Lys Asp
                485                 490                 495

Leu Lys Pro Cys Ser Asp Gly Ser Gly Ser Arg Gly Glu Leu Leu Leu
            500                 505                 510

Ser Leu Cys Tyr Asn Pro Ser Ala Asn Ser Ile Ile Val Asn Ile Ile
        515                 520                 525

Lys Ala Arg Asn Leu Lys Ala Met Asp Ile Gly Gly Thr Ser Asp Pro
    530                 535                 540

Tyr Val Lys Val Trp Leu Met Tyr Lys Asp Lys Arg Val Glu Lys Lys
545                 550                 555                 560

Lys Thr Val Thr Lys Lys Arg Asn Leu Asn Pro Ile Phe Asn Glu Ser
                565                 570                 575

Phe Ala Phe Asp Ile Pro Thr Glu Lys Leu Arg Glu Thr Thr Ile Ile
            580                 585                 590
```

```
Ile Thr Val Met Asp Lys Asp Lys Leu Ser Arg Asn Asp Val Ile Gly
        595                 600                 605

Lys Ile Tyr Leu Ser Trp Lys Ser Gly Pro Gly Glu Val Lys His Trp
    610                 615                 620

Lys Asp Met Ile Ala Arg Pro Arg Gln Pro Val Ala Gln Trp His Gln
625                 630                 635                 640

Leu Lys Ala
```

<210> 65
<211> 282
<212> PRT
<213> Homo sapiens

<400> 65

```
Met Gln Arg Leu Arg Trp Leu Arg Asp Trp Lys Ser Ser Gly Arg Gly
  1               5                  10                  15

Leu Thr Ala Ala Lys Glu Pro Gly Ala Arg Ser Ser Pro Leu Gln Ala
             20                  25                  30

Met Arg Ile Leu Gln Leu Ile Leu Leu Ala Leu Ala Thr Gly Leu Val
         35                  40                  45

Gly Gly Glu Thr Arg Ile Ile Lys Gly Phe Glu Cys Lys Pro His Ser
     50                  55                  60

Gln Pro Trp Gln Ala Ala Leu Phe Glu Lys Thr Arg Leu Leu Cys Gly
 65                  70                  75                  80

Ala Thr Leu Ile Ala Pro Arg Trp Leu Leu Thr Ala Ala His Cys Leu
                 85                  90                  95

Lys Pro Arg Tyr Ile Val His Leu Gly Gln His Asn Leu Gln Lys Glu
            100                 105                 110

Glu Gly Cys Glu Gln Thr Arg Thr Ala Thr Glu Ser Phe Pro His Pro
        115                 120                 125

Gly Phe Asn Asn Ser Leu Pro Asn Lys Asp His Arg Asn Asp Ile Met
    130                 135                 140

Leu Val Lys Met Ala Ser Pro Val Ser Ile Thr Trp Ala Val Arg Pro
145                 150                 155                 160

Leu Thr Leu Ser Ser Arg Cys Val Thr Ala Gly Thr Ser Cys Leu Ile
                165                 170                 175

Ser Gly Trp Gly Ser Thr Ser Ser Pro Gln Leu Arg Leu Pro His Thr
            180                 185                 190

Leu Arg Cys Ala Asn Ile Thr Ile Ile Glu His Gln Lys Cys Glu Asn
        195                 200                 205
```

```
Ala Tyr Pro Gly Asn Ile Thr Asp Thr Met Val Cys Ala Ser Val Gln
    210                 215                 220

Glu Gly Gly Lys Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val
225                 230                 235                 240

Cys Asn Gln Ser Leu Gln Gly Ile Ile Ser Trp Gly Gln Asp Pro Cys
                245                 250                 255

Ala Ile Thr Arg Lys Pro Gly Val Tyr Thr Lys Val Cys Lys Tyr Val
            260                 265                 270

Asp Trp Ile Gln Glu Thr Met Lys Asn Asn
        275                 280


<210> 66
<211> 250
<212> PRT
<213> Homo sapiens

<400> 66
Met Arg Ile Leu Gln Leu Ile Leu Leu Ala Leu Ala Thr Gly Leu Val
  1               5                  10                  15

Gly Gly Glu Thr Arg Ile Ile Lys Gly Phe Glu Cys Lys Pro His Ser
            20                  25                  30

Gln Pro Trp Gln Ala Ala Leu Phe Glu Lys Thr Arg Leu Leu Cys Gly
        35                  40                  45

Ala Thr Leu Ile Ala Pro Arg Trp Leu Leu Thr Ala Ala His Cys Leu
    50                  55                  60

Lys Pro Arg Tyr Ile Val His Leu Gly Gln His Asn Leu Gln Lys Glu
65                  70                  75                  80

Glu Gly Cys Glu Gln Thr Arg Thr Ala Thr Glu Ser Phe Pro His Pro
                85                  90                  95

Gly Phe Asn Asn Ser Leu Pro Asn Lys Asp His Arg Asn Asp Ile Met
            100                 105                 110

Leu Val Lys Met Ala Ser Pro Val Ser Ile Thr Trp Ala Val Arg Pro
        115                 120                 125

Leu Thr Leu Ser Ser Arg Cys Val Thr Ala Gly Thr Ser Cys Leu Ile
    130                 135                 140

Ser Gly Trp Gly Ser Thr Ser Ser Pro Gln Leu Arg Leu Pro His Thr
145                 150                 155                 160

Leu Arg Cys Ala Asn Ile Thr Ile Ile Glu His Gln Lys Cys Glu Asn
                165                 170                 175

Ala Tyr Pro Gly Asn Ile Thr Asp Thr Met Val Cys Ala Ser Val Gln
```

```
            180                 185                 190

Glu Gly Gly Lys Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val
        195                 200                 205

Cys Asn Gln Ser Leu Gln Gly Ile Ile Ser Trp Gly Gln Asp Pro Cys
    210                 215                 220

Ala Ile Thr Arg Lys Pro Gly Val Tyr Thr Lys Val Cys Lys Tyr Val
225                 230                 235                 240

Asp Trp Ile Gln Glu Thr Met Lys Asn Asn
                245                 250


<210> 67
<211> 276
<212> PRT
<213> Mus musculus

<400> 67
Met Arg Arg Leu Lys Ser Asp Trp Lys Leu Ser Thr Glu Thr Arg Glu
  1               5                  10                  15

Pro Gly Ala Arg Pro Ala Leu Leu Gln Ala Arg Met Ile Leu Arg Leu
             20                  25                  30

Ile Ala Leu Ala Leu Val Thr Gly His Val Gly Gly Glu Thr Arg Ile
         35                  40                  45

Ile Lys Gly Tyr Glu Cys Arg Pro His Ser Gln Pro Trp Gln Val Ala
     50                  55                  60

Leu Phe Gln Lys Thr Arg Leu Leu Cys Gly Ala Thr Leu Ile Ala Pro
 65                  70                  75                  80

Lys Trp Leu Leu Thr Ala Ala His Cys Arg Lys Pro His Tyr Val Ile
                 85                  90                  95

Leu Leu Gly Glu His Asn Leu Glu Lys Thr Asp Gly Cys Glu Gln Arg
            100                 105                 110

Arg Met Ala Thr Glu Ser Phe Pro His Pro Asp Phe Asn Asn Ser Leu
        115                 120                 125

Pro Asn Lys Asp His Arg Asn Asp Ile Met Leu Val Lys Met Ser Ser
    130                 135                 140

Pro Val Phe Phe Thr Arg Ala Val Gln Pro Leu Thr Leu Ser Pro His
145                 150                 155                 160

Cys Val Ala Ala Gly Thr Ser Cys Leu Ile Ser Gly Trp Gly Thr Thr
                165                 170                 175

Ser Ser Pro Gln Leu Arg Leu Pro His Ser Leu Arg Cys Ala Asn Val
            180                 185                 190
```

```
Ser Ile Ile Glu His Lys Glu Cys Glu Lys Ala Tyr Pro Gly Asn Ile
        195                 200                 205

Thr Asp Thr Met Leu Cys Ala Ser Val Arg Lys Glu Gly Lys Asp Ser
    210                 215                 220

Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Asn Gly Ser Leu Gln
225                 230                 235                 240

Gly Ile Ile Ser Trp Gly Gln Asp Pro Cys Ala Val Thr Arg Lys Pro
                245                 250                 255

Gly Val Tyr Thr Lys Val Cys Lys Tyr Phe Asn Trp Ile His Glu Val
            260                 265                 270

Met Arg Asn Asn
        275
```

<210> 68
<211> 249
<212> PRT
<213> Mus musculus

<400> 68

```
Met Ile Leu Arg Leu Ile Ala Leu Ala Leu Val Thr Gly His Val Gly
  1               5                  10                  15

Gly Glu Thr Arg Ile Ile Lys Gly Tyr Glu Cys Arg Pro His Ser Gln
             20                  25                  30

Pro Trp Gln Val Ala Leu Phe Gln Lys Thr Arg Leu Leu Cys Gly Ala
         35                  40                  45

Thr Leu Ile Ala Pro Lys Trp Leu Leu Thr Ala Ala His Cys Arg Lys
     50                  55                  60

Pro His Tyr Val Ile Leu Leu Gly Glu His Asn Leu Glu Lys Thr Asp
 65                  70                  75                  80

Gly Cys Glu Gln Arg Arg Met Ala Thr Glu Ser Phe Pro His Pro Asp
                85                  90                  95

Phe Asn Asn Ser Leu Pro Asn Lys Asp His Arg Asn Asp Ile Met Leu
            100                 105                 110

Val Lys Met Ser Ser Pro Val Phe Phe Thr Arg Ala Val Gln Pro Leu
        115                 120                 125

Thr Leu Ser Pro His Cys Val Ala Ala Gly Thr Ser Cys Leu Ile Ser
    130                 135                 140

Gly Trp Gly Thr Thr Ser Ser Pro Gln Leu Arg Leu Pro His Ser Leu
145                 150                 155                 160

Arg Cys Ala Asn Val Ser Ile Ile Glu His Lys Glu Cys Glu Lys Ala
                165                 170                 175
```

```
Tyr Pro Gly Asn Ile Thr Asp Thr Met Leu Cys Ala Ser Val Arg Lys
            180                 185                 190

Glu Gly Lys Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys
        195                 200                 205

Asn Gly Ser Leu Gln Gly Ile Ile Ser Trp Gly Gln Asp Pro Cys Ala
    210                 215                 220

Val Thr Arg Lys Pro Gly Val Tyr Thr Lys Val Cys Lys Tyr Phe Asn
225                 230                 235                 240

Trp Ile His Glu Val Met Arg Asn Asn
                245
```

<210> 69
<211> 250
<212> PRT
<213> Homo sapiens

<400> 69

```
Met Lys Leu Gly Leu Leu Cys Ala Leu Leu Ser Leu Leu Ala Gly His
  1               5                  10                  15

Gly Trp Ala Asp Thr Arg Ala Ile Gly Ala Glu Glu Cys Arg Pro Asn
             20                  25                  30

Ser Gln Pro Trp Gln Ala Gly Leu Phe His Leu Thr Arg Leu Phe Cys
         35                  40                  45

Gly Ala Thr Leu Ile Ser Asp Arg Trp Leu Leu Thr Ala Ala His Cys
     50                  55                  60

Arg Lys Pro Tyr Leu Trp Val Arg Leu Gly Glu His His Leu Trp Lys
 65                  70                  75                  80

Trp Glu Gly Pro Glu Gln Leu Phe Arg Val Thr Asp Phe Phe Pro His
                 85                  90                  95

Pro Gly Phe Asn Lys Asp Leu Ser Ala Asn Asp His Asn Asp Asp Ile
            100                 105                 110

Met Leu Ile Arg Leu Pro Arg Gln Ala Arg Leu Ser Pro Ala Val Gln
        115                 120                 125

Pro Leu Asn Leu Ser Gln Thr Cys Val Ser Pro Gly Met Gln Cys Leu
    130                 135                 140

Ile Ser Gly Trp Gly Ala Val Ser Ser Pro Lys Ala Leu Phe Pro Val
145                 150                 155                 160

Thr Leu Gln Cys Ala Asn Ile Ser Ile Leu Glu Asn Lys Leu Cys His
                165                 170                 175

Trp Ala Tyr Pro Gly His Ile Ser Asp Ser Met Leu Cys Ala Gly Leu
```

```
            180                 185                 190

Trp Glu Gly Gly Arg Gly Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu
        195                 200                 205

Val Cys Asn Gly Thr Leu Ala Gly Val Val Ser Gly Gly Ala Glu Pro
    210                 215                 220

Cys Ser Arg Pro Arg Arg Pro Ala Val Tyr Thr Ser Val Cys His Tyr
225                 230                 235                 240

Leu Asp Trp Ile Gln Glu Ile Met Glu Asn
                245                 250


<210> 70
<211> 579
<212> PRT
<213> Rattus norvegicus

<400> 70
Met Ser Ala Val Arg Pro Leu Leu Leu Leu Leu Leu Pro Leu Cys Pro
  1               5                  10                  15

Gly Pro Gly Pro Gly His Gly Ser Glu Ala Lys Val Val Arg Ser Cys
             20                  25                  30

Ala Glu Thr Arg Gln Val Leu Gly Ala Arg Gly Tyr Ser Leu Asn Leu
         35                  40                  45

Ile Pro Pro Ser Leu Ile Ser Gly Glu His Leu Gln Ile Cys Pro Gln
     50                  55                  60

Glu Tyr Thr Cys Cys Ser Ser Glu Thr Glu Gln Lys Leu Ile Arg Asp
 65                  70                  75                  80

Ala Glu Val Thr Phe Arg Gly Leu Val Glu Asp Ser Gly Ser Phe Leu
                 85                  90                  95

Ile His Thr Leu Ala Ala Arg His Arg Lys Phe Asn Glu Phe Phe Arg
            100                 105                 110

Glu Met Leu Ser Ile Ser Gln His Ser Leu Ala Gln Leu Phe Ser His
        115                 120                 125

Ser Tyr Gly Arg Leu Tyr Ser Gln His Ala Val Ile Phe Asn Ser Leu
    130                 135                 140

Phe Ser Gly Leu Arg Asp Tyr Tyr Glu Lys Ser Gly Glu Gly Leu Asp
145                 150                 155                 160

Asp Thr Leu Ala Asp Phe Trp Ala Gln Leu Leu Glu Arg Ala Phe Pro
                165                 170                 175

Leu Leu His Pro Gln Tyr Ser Phe Pro Pro Asp Phe Leu Leu Cys Leu
            180                 185                 190
```

```
Thr Arg Leu Thr Ser Thr Ala Asp Gly Ser Leu Gln Pro Phe Gly Asp
        195                 200                 205

Ser Pro Arg Arg Leu Arg Leu Gln Ile Thr Arg Ala Leu Val Ala Ala
    210                 215                 220

Arg Ala Leu Val Gln Gly Leu Glu Thr Gly Arg Asn Val Val Ser Glu
225                 230                 235                 240

Ala Leu Lys Val Pro Met Leu Glu Gly Cys Arg Gln Ala Leu Met Arg
                245                 250                 255

Leu Ile Gly Cys Pro Leu Cys Arg Gly Val Pro Ser Leu Met Pro Cys
            260                 265                 270

Arg Gly Phe Cys Leu Asn Val Ala His Gly Cys Leu Ser Ser Arg Gly
        275                 280                 285

Leu Glu Pro Glu Trp Gly Gly Tyr Leu Asp Gly Leu Leu Leu Leu Ala
    290                 295                 300

Glu Lys Leu Gln Gly Pro Phe Ser Phe Glu Leu Ala Ala Glu Ser Ile
305                 310                 315                 320

Gly Val Lys Ile Ser Glu Gly Leu Met His Leu Gln Glu Asn Ser Val
                325                 330                 335

Lys Val Ser Ala Lys Val Phe Gln Glu Cys Gly Thr Pro His Pro Val
            340                 345                 350

Gln Ser Arg Asn Arg Arg Ala Pro Ala Pro Arg Glu Glu Thr Ser Arg
        355                 360                 365

Ser Trp Arg Ser Ser Ala Glu Glu Glu Arg Pro Thr Thr Ala Ala Gly
    370                 375                 380

Thr Asn Leu His Arg Leu Val Trp Glu Leu Arg Glu Arg Leu Ser Arg
385                 390                 395                 400

Val Arg Gly Phe Trp Ala Gly Leu Pro Val Thr Val Cys Gly Asp Ser
                405                 410                 415

Arg Met Ala Ala Asp Leu Ser Gln Glu Ala Ala Pro Cys Trp Thr Gly
            420                 425                 430

Val Gly Arg Gly Arg Tyr Met Ser Pro Val Val Val Gly Ser Leu Asn
        435                 440                 445

Glu Gln Leu His Asn Pro Glu Leu Asp Thr Ser Ser Pro Asp Val Pro
    450                 455                 460

Thr Arg Arg Arg Arg Leu His Leu Arg Ala Ala Thr Ala Arg Met Lys
465                 470                 475                 480

Ala Ala Ala Leu Gly Gln Asp Leu Asp Met His Asp Ala Asp Glu Asp
                485                 490                 495
```

```
Ala Ser Gly Ser Gly Gly Gly Gln Gln Tyr Ala Asp Asp Trp Lys Ala
            500                 505                 510

Gly Ala Ala Pro Val Val Pro Pro Ala Arg Pro Pro Arg Pro Pro Arg
        515                 520                 525

Pro Pro Arg Arg Asp Gly Leu Gly Val Arg Gly Gly Ser Gly Ser Ala
    530                 535                 540

Arg Tyr Asn Gln Gly Arg Ser Arg Asn Leu Gly Ser Ser Val Gly Leu
545                 550                 555                 560

His Ala Pro Arg Val Phe Ile Leu Leu Pro Ser Ala Leu Thr Leu Leu
                565                 570                 575

Gly Leu Arg
```

<210> 71
<211> 555
<212> PRT
<213> Mus musculus

<400> 71

```
Met Pro Ser Trp Ile Arg Ala Val Ile Leu Pro Leu Ser Gly Leu Leu
  1               5                  10                  15

Leu Thr Leu Pro Ala Ala Ala Asp Val Lys Ala Arg Ser Cys Ser Glu
            20                  25                  30

Val Arg Gln Ala Tyr Gly Ala Lys Gly Phe Ser Leu Ala Asp Ile Pro
        35                  40                  45

Tyr Gln Glu Ile Ala Gly Glu His Leu Arg Ile Cys Pro Gln Glu Tyr
    50                  55                  60

Thr Cys Cys Thr Thr Glu Met Glu Asp Lys Leu Ser Gln Gln Ser Lys
65                  70                  75                  80

Leu Glu Phe Glu Asn Leu Val Glu Glu Thr Ser His Phe Val Arg Thr
                85                  90                  95

Thr Phe Val Ser Arg His Lys Lys Phe Asp Glu Phe Phe Arg Glu Leu
            100                 105                 110

Leu Glu Asn Ala Glu Lys Ser Leu Asn Asp Met Phe Val Arg Thr Tyr
        115                 120                 125

Gly Met Leu Tyr Met Gln Asn Ser Glu Val Phe Gln Asp Leu Phe Thr
    130                 135                 140

Glu Leu Lys Arg Tyr Tyr Thr Gly Gly Asn Val Asn Leu Glu Glu Met
145                 150                 155                 160

Leu Asn Asp Phe Trp Ala Arg Leu Leu Glu Arg Met Phe Gln Leu Ile
                165                 170                 175
```

```
Asn Pro Gln Tyr His Phe Ser Glu Asp Tyr Leu Glu Cys Val Ser Lys
            180                 185                 190

Tyr Thr Asp Gln Leu Lys Pro Phe Gly Asp Val Pro Arg Lys Leu Lys
        195                 200                 205

Ile Gln Val Thr Arg Ala Phe Ile Ala Ala Arg Thr Phe Val Gln Gly
    210                 215                 220

Leu Thr Val Gly Arg Glu Val Ala Asn Arg Val Ser Lys Val Ser Pro
225                 230                 235                 240

Thr Pro Gly Cys Ile Arg Ala Leu Met Lys Met Leu Tyr Cys Pro Tyr
                245                 250                 255

Cys Arg Gly Leu Pro Thr Val Arg Pro Cys Asn Asn Tyr Cys Leu Asn
            260                 265                 270

Val Met Lys Gly Cys Leu Ala Asn Gln Ala Asp Leu Asp Thr Glu Trp
        275                 280                 285

Asn Leu Phe Ile Asp Ala Met Leu Leu Val Ala Glu Arg Leu Glu Gly
    290                 295                 300

Pro Phe Asn Ile Glu Ser Val Met Asp Pro Ile Asp Val Lys Ile Ser
305                 310                 315                 320

Glu Ala Ile Met Asn Met Gln Glu Asn Ser Met Gln Val Ser Ala Lys
                325                 330                 335

Val Phe Gln Gly Cys Gly Gln Pro Lys Pro Ala Pro Ala Leu Arg Ser
            340                 345                 350

Ala Arg Ser Ala Pro Glu Asn Phe Asn Thr Arg Phe Arg Pro Tyr Asn
        355                 360                 365

Pro Glu Glu Arg Pro Thr Thr Ala Ala Gly Thr Ser Leu Asp Arg Leu
    370                 375                 380

Val Thr Asp Ile Lys Glu Lys Leu Lys Leu Ser Lys Lys Val Trp Ser
385                 390                 395                 400

Ala Leu Pro Tyr Thr Ile Cys Lys Asp Glu Arg Val Thr Ala Gly Thr
                405                 410                 415

Ser Asn Glu Glu Glu Cys Trp Asn Gly His Ser Lys Ala Arg Tyr Leu
            420                 425                 430

Pro Glu Ile Met Asn Asp Gly Leu Thr Asn Gln Ile Asn Asn Pro Glu
        435                 440                 445

Val Glu Val Asp Ile Thr Arg Pro Asp Thr Phe Ile Arg Gln Gln Ile
    450                 455                 460

Met Ala Leu Arg Val Met Thr Asn Lys Leu Lys Asn Ala Tyr Asn Gly
465                 470                 475                 480
```

```
Asn Asp Val Asn Phe Gln Asp Thr Ser Asp Glu Ser Ser Gly Ser Gly
                485                 490                 495

Ser Gly Ser Gly Cys Met Asp Asp Val Cys Pro Thr Glu Phe Glu Phe
            500                 505                 510

Val Thr Thr Glu Ala Pro Ala Val Asp Pro Asp Arg Arg Glu Glu Glu
        515                 520                 525

Ser Ser Ala Ser Lys Phe Ser Ser Ser Leu Ile Ser Trp Ser Leu Val
    530                 535                 540

Cys Met Val Leu Ala Leu Gln Arg Leu Tyr Arg
545                 550                 555


<210> 72
<211> 555
<212> PRT
<213> Homo sapiens

<400> 72
Met Pro Ser Trp Ile Gly Ala Val Ile Leu Pro Leu Leu Gly Leu Leu
  1               5                  10                  15

Leu Ser Leu Pro Ala Gly Ala Asp Val Lys Ala Arg Ser Cys Gly Glu
             20                  25                  30

Val Arg Gln Ala Tyr Gly Ala Lys Gly Phe Ser Leu Ala Asp Ile Pro
         35                  40                  45

Tyr Gln Glu Ile Ala Gly Glu His Leu Arg Ile Cys Pro Gln Glu Tyr
     50                  55                  60

Thr Cys Cys Thr Thr Glu Met Glu Asp Lys Leu Ser Gln Gln Ser Lys
 65                  70                  75                  80

Leu Glu Phe Glu Asn Leu Val Glu Glu Thr Ser His Phe Val Arg Thr
                 85                  90                  95

Thr Phe Val Ser Arg His Lys Lys Phe Asp Glu Phe Phe Arg Glu Leu
            100                 105                 110

Leu Glu Asn Ala Glu Lys Ser Leu Asn Asp Met Phe Val Arg Thr Tyr
        115                 120                 125

Gly Met Leu Tyr Met Gln Asn Ser Glu Val Phe Gln Asp Leu Phe Thr
    130                 135                 140

Glu Leu Lys Arg Tyr Tyr Thr Gly Gly Asn Val Asn Leu Glu Glu Met
145                 150                 155                 160

Leu Asn Asp Phe Trp Ala Arg Leu Leu Glu Arg Met Phe Gln Leu Ile
                165                 170                 175

Asn Pro Gln Tyr His Phe Ser Glu Asp Tyr Leu Glu Cys Val Ser Lys
```

```
            180                 185                 190

Tyr Thr Asp Gln Leu Lys Pro Phe Gly Asp Val Pro Arg Lys Leu Lys
        195                 200                 205

Ile Gln Val Thr Arg Ala Phe Ile Ala Ala Arg Thr Phe Val Gln Gly
    210                 215                 220

Leu Thr Val Gly Arg Glu Val Ala Asn Arg Val Ser Lys Val Ser Pro
225                 230                 235                 240

Thr Pro Gly Cys Ile Arg Ala Leu Met Lys Met Leu Tyr Cys Pro Tyr
                245                 250                 255

Cys Arg Gly Leu Pro Thr Val Arg Pro Cys Asn Asn Tyr Cys Leu Asn
            260                 265                 270

Val Met Lys Gly Cys Leu Ala Asn Gln Ala Asp Leu Asp Thr Glu Trp
        275                 280                 285

Asn Leu Phe Ile Asp Ala Met Leu Leu Val Ala Glu Arg Leu Glu Gly
    290                 295                 300

Pro Phe Asn Ile Glu Ser Val Met Asp Pro Ile Asp Val Lys Ile Ser
305                 310                 315                 320

Glu Ala Ile Met Asn Met Gln Glu Asn Ser Met Gln Val Ser Ala Lys
                325                 330                 335

Val Phe Gln Gly Cys Gly Gln Pro Lys Pro Ala Pro Ala Leu Arg Ser
            340                 345                 350

Ala Arg Ser Ala Pro Glu Asn Phe Asn Thr Arg Phe Arg Pro Tyr Asn
        355                 360                 365

Pro Glu Glu Arg Pro Thr Thr Ala Ala Gly Thr Ser Leu Asp Arg Leu
    370                 375                 380

Val Thr Asp Ile Lys Glu Lys Leu Lys Leu Ser Lys Lys Val Trp Ser
385                 390                 395                 400

Ala Leu Pro Tyr Thr Ile Cys Lys Asp Glu Ser Val Thr Ala Gly Thr
                405                 410                 415

Ser Asn Glu Glu Glu Cys Trp Asn Gly His Ser Lys Ala Arg Tyr Leu
            420                 425                 430

Pro Glu Ile Met Asn Asp Gly Leu Thr Asn Gln Ile Asn Asn Pro Glu
        435                 440                 445

Val Asp Val Asp Ile Thr Arg Pro Asp Thr Phe Ile Arg Gln Gln Ile
    450                 455                 460

Met Ala Leu Arg Val Met Thr Asn Lys Leu Lys Asn Ala Tyr Asn Gly
465                 470                 475                 480

Asn Asp Val Asn Phe Gln Asp Thr Ser Asp Glu Ser Ser Gly Ser Gly
```

```
                485                 490                 495

Ser Gly Ser Gly Cys Met Asp Asp Val Cys Pro Thr Glu Phe Glu Phe
            500                 505                 510

Val Thr Thr Glu Ala Pro Ala Val Asp Pro Asp Arg Arg Glu Val Asp
        515                 520                 525

Ser Ser Ala Ala Gln Arg Gly His Ser Leu Leu Ser Trp Ser Leu Thr
    530                 535                 540

Cys Ile Val Leu Ala Leu Gln Arg Leu Cys Arg
545                 550                 555


<210> 73
<211> 557
<212> PRT
<213> Mus musculus

<400> 73
Met Ala Arg Leu Gly Leu Leu Ala Leu Leu Cys Thr Leu Ala Ala Leu
  1               5                  10                  15

Ser Ala Ser Leu Leu Ala Ala Glu Leu Lys Ser Lys Ser Cys Ser Glu
             20                  25                  30

Val Arg Arg Leu Tyr Val Ser Lys Gly Phe Asn Lys Asn Asp Ala Pro
         35                  40                  45

Leu Tyr Glu Ile Asn Gly Asp His Leu Lys Ile Cys Pro Gln Asp Tyr
     50                  55                  60

Thr Cys Cys Ser Gln Glu Met Glu Glu Lys Tyr Ser Leu Gln Ser Lys
 65                  70                  75                  80

Asp Asp Phe Lys Thr Val Val Ser Glu Gln Cys Asn His Leu Gln Ala
                 85                  90                  95

Ile Phe Ala Ser Arg Tyr Lys Lys Phe Asp Glu Phe Phe Lys Glu Leu
            100                 105                 110

Leu Glu Asn Ala Glu Lys Ser Leu Asn Asp Met Phe Val Lys Thr Tyr
        115                 120                 125

Gly His Leu Tyr Met Gln Asn Ser Glu Leu Phe Lys Asp Leu Phe Val
    130                 135                 140

Glu Leu Lys Arg Tyr Tyr Val Ala Gly Asn Val Asn Leu Glu Glu Met
145                 150                 155                 160

Leu Asn Asp Phe Trp Ala Arg Leu Leu Glu Arg Met Phe Arg Leu Val
                165                 170                 175

Asn Ser Gln Tyr His Phe Thr Asp Glu Tyr Leu Glu Cys Val Ser Lys
            180                 185                 190
```

```
Tyr Thr Glu Gln Leu Lys Pro Phe Gly Asp Val Pro Arg Lys Leu Lys
        195                 200                 205

Leu Gln Val Thr Arg Ala Phe Val Ala Ala Arg Thr Phe Ala Gln Gly
    210                 215                 220

Leu Ala Val Ala Arg Asp Val Val Ser Lys Val Ser Val Val Asn Pro
225                 230                 235                 240

Thr Ala Gln Cys Thr His Ala Leu Leu Lys Met Ile Tyr Cys Ser His
                245                 250                 255

Cys Arg Gly Leu Val Thr Val Lys Pro Cys Tyr Asn Tyr Cys Ser Asn
            260                 265                 270

Ile Met Arg Gly Cys Leu Ala Asn Gln Gly Asp Leu Asp Phe Glu Trp
        275                 280                 285

Asn Asn Phe Ile Asp Ala Met Leu Met Val Ala Glu Arg Leu Glu Gly
    290                 295                 300

Pro Phe Asn Ile Glu Ser Val Met Asp Pro Ile Asp Val Lys Ile Ser
305                 310                 315                 320

Asp Ala Ile Met Asn Met Gln Asp Asn Ser Val Gln Val Ser Gln Lys
                325                 330                 335

Val Phe Gln Gly Cys Gly Pro Pro Lys Pro Leu Pro Ala Gly Arg Ile
            340                 345                 350

Ser Arg Ser Ile Ser Glu Ser Ala Phe Ser Ala Arg Phe Arg Pro Tyr
        355                 360                 365

His Pro Glu Gln Arg Pro Thr Thr Ala Ala Gly Thr Ser Leu Asp Arg
    370                 375                 380

Leu Val Thr Asp Val Lys Glu Lys Leu Lys Gln Ala Lys Lys Phe Trp
385                 390                 395                 400

Ser Ser Leu Pro Ser Thr Val Cys Asn Asp Glu Arg Met Ala Ala Gly
                405                 410                 415

Asn Glu Asn Glu Asp Asp Cys Trp Asn Gly Lys Gly Lys Ser Arg Tyr
            420                 425                 430

Leu Phe Ala Val Thr Gly Asn Gly Leu Ala Asn Gln Gly Asn Asn Pro
        435                 440                 445

Glu Val Gln Val Asp Thr Ser Lys Pro Asp Ile Leu Ile Leu Arg Gln
    450                 455                 460

Ile Met Ala Leu Arg Val Met Thr Ser Lys Met Lys Asn Ala Tyr Asn
465                 470                 475                 480

Gly Asn Asp Val Asp Phe Phe Asp Ile Ser Asp Glu Ser Ser Gly Glu
                485                 490                 495
```

```
Gly Ser Gly Ser Gly Cys Glu Tyr Gln Gln Cys Pro Ser Glu Phe Glu
            500                 505                 510

Tyr Asn Ala Thr Asp His Ser Gly Lys Ser Ala Asn Glu Lys Ala Asp
        515                 520                 525

Ser Ala Gly Gly Ala His Ala Glu Thr Lys Pro Tyr Leu Leu Ala Ala
    530                 535                 540

Leu Cys Ile Leu Phe Leu Ala Val Gln Gly Glu Trp Arg
545                 550                 555
```

<210> 74
<211> 557
<212> PRT
<213> Mus musculus

<400> 74

```
Met Ala Arg Leu Gly Leu Leu Ala Leu Leu Cys Thr Leu Ala Ala Leu
  1               5                  10                  15

Ser Ala Ser Leu Leu Ala Ala Glu Leu Lys Ser Lys Ser Cys Ser Glu
             20                  25                  30

Val Arg Arg Leu Tyr Val Ser Lys Gly Phe Asn Lys Asn Asp Ala Pro
         35                  40                  45

Leu Tyr Glu Ile Asn Gly Asp His Leu Lys Ile Cys Pro Gln Asp Tyr
     50                  55                  60

Thr Cys Cys Ser Gln Glu Met Glu Glu Lys Tyr Ser Leu Gln Ser Lys
 65                  70                  75                  80

Asp Asp Phe Lys Thr Val Val Ser Glu Gln Cys Asn His Leu Gln Ala
                 85                  90                  95

Ile Phe Ala Ser Arg Tyr Lys Lys Phe Asp Glu Phe Phe Lys Glu Leu
            100                 105                 110

Leu Glu Asn Ala Glu Lys Ser Leu Asn Asp Met Phe Val Lys Thr Tyr
        115                 120                 125

Gly His Leu Tyr Met Gln Asn Ser Glu Leu Phe Lys Asp Leu Phe Val
    130                 135                 140

Glu Leu Lys Arg Tyr Tyr Val Ala Gly Asn Val Asn Leu Glu Glu Met
145                 150                 155                 160

Leu Asn Asp Phe Trp Ala Arg Leu Leu Glu Arg Met Phe Arg Leu Val
                165                 170                 175

Asn Ser Gln Tyr His Phe Thr Asp Glu Tyr Leu Glu Cys Val Ser Lys
            180                 185                 190

Tyr Thr Glu Gln Leu Lys Pro Phe Gly Asp Val Pro Arg Lys Leu Lys
        195                 200                 205
```

```
Leu Gln Val Thr Arg Ala Phe Val Ala Ala Arg Thr Phe Ala Gln Gly
    210                 215                 220

Leu Ala Val Ala Arg Asp Val Val Ser Lys Val Ser Val Val Asn Pro
225                 230                 235                 240

Thr Ala Gln Cys Thr His Ala Leu Leu Lys Met Ile Tyr Cys Ser His
                245                 250                 255

Cys Arg Gly Leu Val Thr Val Lys Pro Cys Tyr Asn Tyr Cys Ser Asn
            260                 265                 270

Ile Met Arg Gly Cys Leu Ala Asn Gln Gly Asp Leu Asp Phe Glu Trp
        275                 280                 285

Asn Asn Phe Ile Asp Ala Met Leu Met Val Ala Glu Arg Leu Glu Gly
    290                 295                 300

Pro Phe Asn Ile Glu Ser Val Met Asp Pro Ile Asp Val Lys Ile Ser
305                 310                 315                 320

Asp Ala Ile Met Asn Met Gln Asp Asn Ser Val Gln Val Ser Gln Lys
                325                 330                 335

Val Phe Gln Gly Cys Gly Pro Pro Lys Pro Leu Pro Ala Gly Arg Ile
            340                 345                 350

Ser Arg Ser Ile Ser Glu Ser Ala Phe Ser Ala Arg Phe Arg Pro Tyr
        355                 360                 365

His Pro Glu Gln Arg Pro Thr Thr Ala Ala Gly Thr Ser Leu Asp Arg
    370                 375                 380

Leu Val Thr Asp Val Lys Glu Lys Leu Lys Gln Ala Lys Lys Phe Trp
385                 390                 395                 400

Ser Ser Leu Pro Ser Thr Val Cys Asn Asp Glu Arg Met Ala Ala Gly
                405                 410                 415

Asn Glu Asn Glu Asp Asp Cys Trp Asn Gly Lys Gly Lys Ser Arg Tyr
            420                 425                 430

Leu Phe Ala Val Thr Gly Asn Gly Leu Ala Asn Gln Gly Asn Asn Pro
        435                 440                 445

Glu Val Gln Val Asp Thr Ser Lys Pro Asp Ile Leu Ile Leu Arg Gln
    450                 455                 460

Ile Met Ala Leu Arg Val Met Thr Ser Lys Met Lys Asn Ala Tyr Asn
465                 470                 475                 480

Gly Asn Asp Val Asp Phe Phe Asp Ile Ser Asp Glu Ser Ser Gly Glu
                485                 490                 495

Gly Ser Gly Ser Gly Cys Glu Tyr Gln Gln Cys Pro Ser Glu Phe Glu
            500                 505                 510
```

```
Tyr Asn Ala Thr Asp His Ser Gly Lys Ser Ala Asn Glu Lys Ala Asp
        515                 520                 525

Ser Ala Gly Gly Ala His Ala Glu Ala Lys Pro Tyr Leu Leu Ala Ala
    530                 535                 540

Leu Cys Ile Leu Phe Leu Ala Val Gln Gly Glu Trp Arg
545                 550                 555


<210> 75
<211> 325
<212> PRT
<213> Homo sapiens

<400> 75
Met Leu Ala Arg Arg Lys Pro Val Leu Pro Ala Leu Thr Ile Asn Pro
  1               5                  10                  15

Thr Ile Ala Glu Gly Pro Ser Pro Thr Ser Glu Gly Ala Ser Glu Ala
             20                  25                  30

Asn Leu Val Asp Leu Gln Lys Lys Leu Glu Glu Leu Glu Leu Asp Glu
         35                  40                  45

Gln Gln Lys Lys Arg Leu Glu Ala Phe Leu Thr Gln Lys Ala Lys Val
     50                  55                  60

Gly Glu Leu Lys Asp Asp Asp Phe Glu Arg Ile Ser Glu Leu Gly Ala
 65                  70                  75                  80

Gly Asn Gly Gly Val Val Thr Lys Val Gln His Arg Pro Ser Gly Leu
                 85                  90                  95

Ile Met Ala Arg Lys Leu Ile His Leu Glu Ile Lys Pro Ala Ile Arg
            100                 105                 110

Asn Gln Ile Ile Arg Glu Leu Gln Val Leu His Glu Cys Asn Ser Pro
        115                 120                 125

Tyr Ile Val Gly Phe Tyr Gly Ala Phe Tyr Ser Asp Gly Glu Ile Ser
    130                 135                 140

Ile Cys Met Glu His Met Asp Gly Gly Ser Leu Asp Gln Val Leu Lys
145                 150                 155                 160

Glu Ala Lys Arg Ile Pro Glu Glu Ile Leu Gly Lys Val Ser Ile Ala
                165                 170                 175

Val Leu Arg Gly Leu Ala Tyr Leu Arg Glu Lys His Gln Ile Met His
            180                 185                 190

Arg Asp Val Lys Pro Ser Asn Ile Leu Val Asn Ser Arg Gly Glu Ile
        195                 200                 205

Lys Leu Cys Asp Phe Gly Val Ser Gly Gln Leu Ile Asp Ser Met Ala
```

```
    210                 215                 220

Asn Ser Phe Val Gly Thr Arg Ser Tyr Met Ala Pro Glu Arg Leu Gln
225                 230                 235                 240

Gly Thr His Tyr Ser Val Gln Ser Asp Ile Trp Ser Met Gly Leu Ser
                245                 250                 255

Leu Val Glu Leu Ala Val Gly Arg Tyr Pro Ile Pro Pro Pro Asp Ala
            260                 265                 270

Lys Glu Leu Glu Ala Ile Phe Gly Arg Pro Val Val Asp Gly Glu Glu
        275                 280                 285

Gly Glu Pro His Ser Ile Ser Pro Arg Pro Arg Pro Pro Gly Arg Pro
    290                 295                 300

Val Ser Val Thr Gly Trp Ile Ala Gly Leu Pro Trp Pro Ser Leu Asn
305                 310                 315                 320

Ser Trp Thr Ile Leu
                325
```

<210> 76
<211> 400
<212> PRT
<213> Homo sapiens

<400> 76

```
Met Leu Ala Arg Arg Lys Pro Val Leu Pro Ala Leu Thr Ile Asn Pro
  1               5                  10                  15

Thr Ile Ala Glu Gly Pro Ser Pro Thr Ser Glu Gly Ala Ser Glu Ala
             20                  25                  30

Asn Leu Val Asp Leu Gln Lys Lys Leu Glu Glu Leu Glu Leu Asp Glu
         35                  40                  45

Gln Gln Lys Lys Arg Leu Glu Ala Phe Leu Thr Gln Lys Ala Lys Val
     50                  55                  60

Gly Glu Leu Lys Asp Asp Asp Phe Glu Arg Ile Ser Glu Leu Gly Ala
 65                  70                  75                  80

Gly Asn Gly Gly Val Val Thr Lys Val Gln His Arg Pro Ser Gly Leu
                 85                  90                  95

Ile Met Ala Arg Lys Leu Ile His Leu Glu Ile Lys Pro Ala Ile Arg
            100                 105                 110

Asn Gln Ile Ile Arg Glu Leu Gln Val Leu His Glu Cys Asn Ser Pro
        115                 120                 125

Tyr Ile Val Gly Phe Tyr Gly Ala Phe Tyr Ser Asp Gly Glu Ile Ser
    130                 135                 140
```

```
Ile Cys Met Glu His Met Asp Gly Gly Ser Leu Asp Gln Val Leu Lys
145                 150                 155                 160

Glu Ala Lys Arg Ile Pro Glu Glu Ile Leu Gly Lys Val Ser Ile Ala
                165                 170                 175

Val Leu Arg Gly Leu Ala Tyr Leu Arg Glu Lys His Gln Ile Met His
            180                 185                 190

Arg Asp Val Lys Pro Ser Asn Ile Leu Val Asn Ser Arg Gly Glu Ile
        195                 200                 205

Lys Leu Cys Asp Phe Gly Val Ser Gly Gln Leu Ile Asp Ser Met Ala
    210                 215                 220

Asn Ser Phe Val Gly Thr Arg Ser Tyr Met Ala Pro Glu Arg Leu Gln
225                 230                 235                 240

Gly Thr His Tyr Ser Val Gln Ser Asp Ile Trp Ser Met Gly Leu Ser
                245                 250                 255

Leu Val Glu Leu Ala Val Gly Arg Tyr Pro Ile Pro Pro Pro Asp Ala
            260                 265                 270

Lys Glu Leu Glu Ala Ile Phe Gly Arg Pro Val Val Asp Gly Glu Glu
        275                 280                 285

Gly Glu Pro His Ser Ile Ser Pro Arg Pro Arg Pro Pro Gly Arg Pro
    290                 295                 300

Val Ser Gly His Gly Met Asp Ser Arg Pro Ala Met Ala Ile Phe Glu
305                 310                 315                 320

Leu Leu Asp Tyr Ile Val Asn Glu Pro Pro Pro Lys Leu Pro Asn Gly
                325                 330                 335

Val Phe Thr Pro Asp Phe Gln Glu Phe Val Asn Lys Cys Leu Ile Lys
            340                 345                 350

Asn Pro Ala Glu Arg Ala Asp Leu Lys Met Leu Thr Asn His Thr Phe
        355                 360                 365

Ile Lys Arg Ser Glu Val Glu Glu Val Asp Phe Ala Gly Trp Leu Cys
    370                 375                 380

Lys Thr Leu Arg Leu Asn Gln Pro Gly Thr Pro Thr Arg Thr Ala Val
385                 390                 395                 400
```

<210> 77
<211> 400
<212> PRT
<213> Rattus norvegicus

<400> 77

```
Met Leu Ala Arg Arg Lys Pro Val Leu Pro Ala Leu Thr Ile Asn Pro
  1               5                  10                  15

Thr Ile Ala Glu Gly Pro Ser Pro Thr Ser Glu Gly Ala Ser Glu Ala
             20                  25                  30

Asn Leu Val Asp Leu Gln Lys Lys Leu Glu Glu Leu Asp Leu Asp Glu
         35                  40                  45

Gln Gln Arg Lys Arg Leu Glu Ala Phe Leu Thr Gln Lys Ala Lys Val
     50                  55                  60

Gly Glu Leu Lys Asp Asp Asp Phe Glu Arg Ile Ser Glu Leu Gly Ala
 65                  70                  75                  80

Gly Asn Gly Gly Val Val Thr Lys Ala Arg His Arg Pro Ser Gly Leu
                 85                  90                  95

Ile Met Ala Arg Lys Leu Ile His Leu Glu Ile Lys Pro Ala Val Arg
            100                 105                 110

Asn Gln Ile Ile Arg Glu Leu Gln Val Leu His Glu Cys Asn Ser Pro
        115                 120                 125

Tyr Ile Val Gly Phe Tyr Gly Ala Phe Tyr Ser Asp Gly Glu Ile Ser
    130                 135                 140

Ile Cys Met Glu His Met Asp Gly Gly Ser Leu Asp Gln Val Leu Lys
145                 150                 155                 160

Glu Ala Lys Arg Ile Pro Glu Asp Ile Leu Gly Lys Val Ser Ile Ala
                165                 170                 175

Val Leu Arg Gly Leu Ala Tyr Leu Arg Glu Lys His Gln Ile Met His
            180                 185                 190

Arg Asp Val Lys Pro Ser Asn Ile Leu Val Asn Ser Arg Gly Glu Ile
        195                 200                 205

Lys Leu Cys Asp Phe Gly Val Ser Gly Gln Leu Ile Asp Ser Met Ala
    210                 215                 220

Asn Ser Phe Val Gly Thr Arg Ser Tyr Met Ser Pro Glu Arg Leu Gln
225                 230                 235                 240

Gly Thr His Tyr Ser Val Gln Ser Asp Ile Trp Ser Met Gly Leu Ser
                245                 250                 255

Leu Val Glu Leu Ala Ile Gly Arg Tyr Pro Ile Pro Pro Pro Asp Ala
            260                 265                 270

Lys Glu Leu Glu Ala Ser Phe Gly Arg Pro Val Val Asp Gly Ala Asp
        275                 280                 285

Gly Glu Pro His Ser Val Ser Pro Arg Pro Arg Pro Pro Gly Arg Pro
    290                 295                 300
```

```
Ile Ser Gly His Gly Met Asp Ser Arg Pro Ala Met Ala Ile Phe Glu
305                 310                 315                 320

Leu Leu Asp Tyr Ile Val Asn Glu Pro Pro Pro Lys Leu Pro Ser Gly
                325                 330                 335

Val Phe Ser Ser Asp Phe Gln Glu Phe Val Asn Lys Cys Leu Ile Lys
            340                 345                 350

Asn Pro Ala Glu Arg Ala Asp Leu Lys Leu Leu Thr Asn His Ala Phe
        355                 360                 365

Ile Lys Arg Ser Glu Gly Glu Glu Val Asp Phe Ala Gly Trp Leu Cys
    370                 375                 380

Arg Thr Leu Arg Leu Lys Gln Pro Ser Thr Pro Thr Arg Thr Ala Val
385                 390                 395                 400
```

<210> 78
<211> 401
<212> PRT
<213> Mus musculus

<400> 78

```
Met Leu Ala Arg Arg Lys Pro Val Leu Pro Ala Leu Thr Ile Asn Pro
  1               5                  10                  15

Thr Ile Ala Glu Gly Pro Ser Pro Thr Ser Glu Gly Ala Ser Glu Ala
             20                  25                  30

Asn Leu Val Asp Leu Gln Lys Lys Leu Glu Glu Leu Asp Leu Asp Glu
         35                  40                  45

Gln Gln Arg Lys Arg Leu Glu Ala Phe Leu Thr Gln Lys Ala Lys Val
     50                  55                  60

Gly Glu Leu Lys Asp Asp Asp Phe Glu Arg Ile Ser Glu Leu Gly Ala
 65                  70                  75                  80

Gly Asn Gly Gly Val Val Thr Lys Ala Arg His Arg Pro Ser Gly Leu
                 85                  90                  95

Ile Met Ala Arg Lys Leu Ile His Leu Glu Ile Lys Pro Ala Val Arg
            100                 105                 110

Asn Gln Ile Ile Arg Glu Leu Gln Val Leu His Glu Cys Asn Ser Pro
        115                 120                 125

Tyr Ile Val Gly Phe Tyr Gly Ala Phe Tyr Ser Asp Gly Glu Ile Ser
    130                 135                 140

Ile Cys Met Glu His Met Asp Gly Gly Ser Leu Asp Gln Val Leu Lys
```

```
145                 150                 155                 160

Glu Ala Lys Arg Ile Pro Glu Asp Ile Leu Gly Lys Val Ser Ile Ala
                165                 170                 175

Val Leu Arg Gly Leu Ala Tyr Leu Arg Glu Lys His Gln Ile Met His
            180                 185                 190

Arg Asp Val Lys Pro Ser Asn Ile Leu Val Asn Ser Arg Gly Glu Ile
        195                 200                 205

Lys Leu Cys Asp Phe Gly Val Ser Gly Gln Leu Ile Asp Ser Met Ala
    210                 215                 220

Asn Ser Phe Val Gly Thr Arg Ser Tyr Met Ser Pro Glu Arg Leu Gln
225                 230                 235                 240

Gly Thr His Tyr Ser Val Gln Ser Asp Ile Trp Ser Met Gly Leu Ser
                245                 250                 255

Leu Val Glu Leu Ala Ile Gly Arg Tyr Pro Ile Pro Pro Pro Asp Ala
            260                 265                 270

Lys Glu Leu Glu Ala Ser Phe Gly Arg Pro Val Val Asp Gly Ala Asp
        275                 280                 285

Gly Glu Pro His Ser Val Ser Pro Arg Pro Arg Pro Pro Gly Arg Pro
    290                 295                 300

Ile Ser Val Gly His Gly Met Asp Ser Arg Pro Ala Met Ala Ile Phe
305                 310                 315                 320

Glu Leu Leu Asp Tyr Ile Val Asn Glu Pro Pro Pro Lys Leu Pro Ser
                325                 330                 335

Gly Val Phe Ser Ser Asp Phe Gln Glu Phe Val Asn Lys Cys Leu Ile
            340                 345                 350

Lys Asn Pro Ala Glu Arg Ala Asp Leu Lys Leu Leu Met Asn His Ala
        355                 360                 365

Phe Ile Lys Arg Ser Glu Gly Glu Glu Val Asp Phe Ala Gly Trp Leu
    370                 375                 380

Cys Arg Thr Leu Arg Leu Lys Gln Pro Ser Thr Pro Thr Arg Thr Ala
385                 390                 395                 400

Val
```

<210> 79
<211> 400
<212> PRT
<213> Mus musculus

<400> 79

```
Met Leu Ala Arg Arg Lys Pro Val Leu Pro Ala Leu Thr Ile Asn Pro
  1               5                  10                  15

Thr Ile Ala Glu Gly Pro Ser Pro Thr Ser Glu Gly Ala Ser Glu Ala
            20                  25                  30

Asn Leu Val Asp Leu Gln Lys Lys Leu Glu Glu Leu Asp Leu Asp Glu
         35                  40                  45

Gln Gln Arg Lys Arg Leu Glu Ala Phe Leu Thr Gln Lys Ala Lys Val
     50                  55                  60

Gly Glu Leu Lys Asp Asp Asp Phe Glu Arg Ile Ser Glu Leu Gly Ala
 65                  70                  75                  80

Gly Asn Gly Gly Val Val Thr Lys Ala Arg His Arg Pro Ser Gly Leu
                85                  90                  95

Ile Met Ala Arg Lys Leu Ile His Leu Glu Ile Lys Pro Ala Val Arg
            100                 105                 110

Asn Gln Ile Ile Arg Glu Leu Gln Val Leu His Glu Cys Asn Ser Pro
        115                 120                 125

Tyr Ile Val Gly Phe Tyr Gly Ala Phe Tyr Ser Asp Gly Glu Ile Ser
    130                 135                 140

Ile Cys Met Glu His Met Asp Gly Gly Ser Leu Asp Gln Val Leu Lys
145                 150                 155                 160

Glu Ala Lys Arg Ile Pro Glu Asp Ile Leu Gly Lys Val Ser Ile Ala
                165                 170                 175

Val Leu Arg Gly Leu Ala Tyr Leu Arg Glu Lys His Gln Ile Met His
            180                 185                 190

Arg Asp Val Lys Pro Ser Asn Ile Leu Val Asn Ser Arg Gly Glu Ile
        195                 200                 205

Lys Leu Cys Asp Phe Gly Val Ser Gly Gln Leu Ile Asp Ser Met Ala
    210                 215                 220

Asn Ser Phe Val Gly Thr Arg Ser Tyr Met Ser Pro Glu Arg Leu Gln
225                 230                 235                 240

Gly Thr His Tyr Ser Val Gln Ser Asp Ile Trp Ser Met Gly Leu Ser
                245                 250                 255

Leu Val Glu Leu Ala Ile Gly Arg Tyr Pro Ile Pro Pro Pro Asp Ala
            260                 265                 270

Lys Glu Leu Glu Ala Ser Phe Gly Arg Pro Val Val Asp Gly Ala Asp
        275                 280                 285

Gly Glu Pro His Ser Val Ser Pro Arg Pro Arg Pro Pro Gly Arg Pro
    290                 295                 300
```

```
Ile Ser Gly His Gly Met Asp Ser Arg Pro Ala Met Ala Ile Phe Glu
305                 310                 315                 320

Leu Leu Asp Tyr Ile Val Asn Glu Pro Pro Pro Lys Leu Pro Ser Gly
                325                 330                 335

Val Phe Ser Ser Asp Phe Gln Glu Phe Val Asn Lys Cys Leu Ile Lys
            340                 345                 350

Asn Pro Ala Glu Arg Ala Asp Leu Lys Leu Leu Met Asn His Ala Phe
        355                 360                 365

Ile Lys Arg Ser Glu Gly Glu Glu Val Asp Phe Ala Gly Trp Leu Cys
    370                 375                 380

Arg Thr Leu Arg Leu Lys Gln Pro Ser Thr Pro Thr Arg Thr Ala Val
385                 390                 395                 400
```

<210> 80
<211> 372
<212> PRT
<213> Mus musculus

<400> 80

```
Met Asp Thr Ala Ser Ser Cys Arg Ala Leu Phe Leu Asp Ser Ala Leu
  1               5                  10                  15

Ala Val Lys Trp Ala Trp Gly Lys Asp Leu Ser Pro Arg Leu Ala Gln
             20                  25                  30

Asn Ser Glu Ser Asn Pro Thr Gly Ala Ala Ser Arg Leu Cys Gln Ala
         35                  40                  45

Arg Glu Thr Gln Val Gly Ser Glu Thr Lys Thr Leu Pro Ser Val Asp
     50                  55                  60

Val Ala Leu Leu His Ser His Gly Asp Ser Val Gly Pro Gly Leu Gly
 65                  70                  75                  80

Pro Cys Thr Gln Pro His Leu Ala Pro Ser Glu Ala Pro Gly Gln Leu
                 85                  90                  95

Gly Glu Thr Gln Val Pro Ser Ser Thr Ser Asp Asp Arg Val Lys Asp
            100                 105                 110

Glu Phe Ser Asp Leu Ser Glu Gly Asp Phe Leu Ser Glu Asp Glu Ser
        115                 120                 125

Asp Lys Lys Gln Thr Pro Gln Ser Ser Asp Glu Ser Phe Glu Pro Tyr
    130                 135                 140

Pro Glu Lys Lys Val Ser Gly Lys Lys Ser Glu Gly Arg Glu Ala Lys
145                 150                 155                 160
```

```
Arg Pro Glu Glu Pro Lys Ile Arg Lys Lys Pro Gly Pro Lys Pro Gly
                165                 170                 175

Trp Lys Lys Lys Leu Arg Cys Glu Arg Glu Glu Leu Pro Thr Ile Tyr
            180                 185                 190

Lys Cys Pro Tyr Gln Gly Cys Thr Ala Val Tyr Arg Gly Ala Asp Gly
        195                 200                 205

Met Lys Lys His Ile Lys Glu His His Glu Glu Val Arg Glu Arg Pro
    210                 215                 220

Cys Pro His Pro Gly Cys Asn Lys Val Phe Met Ile Asp Arg Tyr Leu
225                 230                 235                 240

Gln Arg His Val Lys Leu Ile His Thr Glu Val Arg Asn Tyr Ile Cys
                245                 250                 255

Asp Glu Cys Gly Gln Thr Phe Lys Gln Arg Asn Asp Leu Leu Val His
            260                 265                 270

Gln Met Arg His Ser Gly Gly Lys Pro Leu Gln Cys Glu Val Cys Gly
        275                 280                 285

Phe Gln Cys Arg Gln Arg Ala Ser Leu Lys Tyr His Met Thr Lys His
    290                 295                 300

Lys Ala Glu Thr Glu Leu Asp Phe Ala Cys Asp Gln Cys Gly Arg Arg
305                 310                 315                 320

Phe Glu Lys Ala His Asn Leu Asn Val His Met Ser Met Val His Pro
                325                 330                 335

Trp Thr Gln Ala Gln Asp Arg Ala Leu Pro Leu Glu Ala Glu Pro Pro
            340                 345                 350

Pro Gly Pro Leu Ser Pro Ser Gly Thr Met Glu Gly Gln Ala Val Lys
        355                 360                 365

Pro Glu Pro Thr
    370
```

<210> 81
<211> 280
<212> PRT
<213> Macaca fascicularis

<400> 81

```
Met Gly His Cys Arg Leu Cys His Gly Lys Phe Ser Ser Arg Ser Leu
  1               5                  10                  15

Arg Gly Ile Ser Glu Arg Ala Pro Gly Ala Ser Val Glu Arg Pro Ser
             20                  25                  30

Ala Glu Glu Arg Val Leu Val Arg Asp Phe Gln Arg Leu Leu Gly Val
```

```
         35                  40                  45

Ala Val Arg Gln Asp Pro Ala Leu Ser Gln Phe Val Cys Lys Ser Cys
     50                  55                  60

His Ala Gln Phe Tyr Gln Cys His Ser Leu Leu Arg Ser Phe Leu Gln
 65                  70                  75                  80

Arg Val Asn Val Ser Pro Thr Gly Arg Arg Lys Pro Cys Ala Lys Val
                 85                  90                  95

Gly Ala Gln Leu Pro Ala Gly Ala Glu Glu Gly Ala Cys Leu Val Asp
            100                 105                 110

Leu Ile Thr Ser Ser Pro Gln Cys Leu His Gly Leu Val Gly Trp Val
        115                 120                 125

His Gly His Ala Ala Ser Cys Arg Ala Leu Pro His Leu Gln Arg Thr
    130                 135                 140

Leu Ser Ser Glu Tyr Cys Gly Val Ile Gln Ala Val Trp Gly Cys Asp
145                 150                 155                 160

Gln Gly His Asp Tyr Thr Met Asp Thr Ser Ser Ser Cys Lys Ala Phe
                165                 170                 175

Leu Leu Asp Ser Ala Leu Ala Val Lys Trp Pro Trp Asp Lys Glu Thr
            180                 185                 190

Ala Pro Arg Leu Pro Gln His Arg Gly Trp Asn Pro Gly Asp Ala Pro
        195                 200                 205

His Thr Ser Gln Gly Lys Gly Thr Gly Thr Pro Val Gly Ala Glu Thr
    210                 215                 220

Lys Ile Leu Pro Ser Thr Asp Glu Ala Gln Pro Pro Ser Asp Ser Asp
225                 230                 235                 240

Ala Val Gly Pro Arg Ser Gly Phe Pro Pro Gln Pro Ser Leu Pro Leu
                245                 250                 255

Cys Gly Ala Pro Gly Gln Leu Gly Glu Lys Gln Val Pro Ser Ser Thr
            260                 265                 270

Ser Asp Asp Arg Arg Arg Leu Glu
        275                 280


<210> 82
<211> 400
<212> PRT
<213> Homo sapiens

<400> 82
Met Asp Met Arg Pro Ala Ala Gly Pro Cys Pro Thr Phe Arg Gly His
  1               5                  10                  15
```

```
Cys Pro Pro Ser Thr Ala Ala Ser Ser Arg Ser Cys Gly Ala Ala Thr
            20                  25                  30

Arg Ala Thr Thr Thr Pro Trp Ile Pro Ala Pro Ala Ala Arg Pro Ser
        35                  40                  45

Cys Trp Thr Val Arg Trp Gln Ser Ser Gly His Gly Thr Lys Arg Arg
    50                  55                  60

Arg His Gly Cys Pro Ser Thr Glu Gly Gly Thr Leu Gly Met Pro Leu
65                  70                  75                  80

Arg Pro Pro Arg Val Glu Gly Gln Gly Pro Gln Leu Gly Leu Arg Pro
                85                  90                  95

Arg Pro Cys Pro Ala Arg Met Trp Pro Ser Leu Leu Arg Thr Ala Thr
            100                 105                 110

Arg Trp Gly Pro Gly Arg Ala Ser His Leu Ser Gln Ala Cys Pro Phe
        115                 120                 125

Ala Gly Pro Gln Gly Ser Trp Val Arg Ser Ser Phe His Leu Gln Pro
    130                 135                 140

Arg Met Ile Gly Asp Val Leu Ser Glu Asp Glu Asn Asp Lys Lys Gln
145                 150                 155                 160

Asn Ala Gln Ser Ser Asp Glu Ser Phe Glu Pro Tyr Pro Glu Arg Lys
                165                 170                 175

Val Ser Gly Lys Lys Ser Glu Ser Lys Glu Ala Lys Lys Ser Glu Glu
            180                 185                 190

Pro Arg Ile Arg Lys Lys Pro Gly Pro Lys Pro Gly Trp Lys Lys Lys
        195                 200                 205

Leu Arg Cys Glu Arg Glu Glu Leu Pro Thr Ile Tyr Lys Cys Pro Tyr
    210                 215                 220

Gln Gly Cys Thr Ala Val Tyr Arg Gly Ala Asp Gly Met Lys Lys His
225                 230                 235                 240

Ile Lys Glu His His Glu Glu Val Arg Glu Arg Pro Cys Pro His Pro
                245                 250                 255

Gly Cys Asn Lys Val Phe Met Ile Asp Arg Tyr Leu Gln Arg His Val
            260                 265                 270

Lys Leu Ile His Thr Glu Val Arg Asn Tyr Ile Cys Asp Glu Cys Gly
        275                 280                 285

Gln Thr Phe Lys Gln Arg Lys His Leu Leu Val His Gln Met Arg His
    290                 295                 300

Ser Gly Ala Lys Pro Leu Gln Cys Glu Val Cys Gly Phe Gln Cys Arg
305                 310                 315                 320
```

```
Gln Arg Ala Ser Leu Lys Tyr His Met Thr Lys His Lys Ala Glu Thr
                325                 330                 335

Glu Leu Asp Phe Ala Cys Asp Gln Cys Gly Arg Arg Phe Glu Lys Ala
            340                 345                 350

His Asn Leu Asn Val His Met Ser Met Val His Pro Leu Thr Gln Thr
        355                 360                 365

Gln Asp Lys Ala Leu Pro Leu Glu Ala Glu Pro Pro Pro Gly Pro Pro
    370                 375                 380

Ser Pro Ser Val Thr Thr Glu Gly Gln Ala Val Lys Pro Glu Pro Thr
385                 390                 395                 400
```

<210> 83
<211> 280
<212> PRT
<213> Macaca fascicularis

<400> 83

```
Met Gly His Cys Arg Leu Cys His Gly Lys Phe Ser Ser Arg Ser Leu
  1               5                  10                  15

Arg Gly Ile Ser Glu Arg Ala Pro Gly Ala Ser Val Glu Arg Pro Ser
            20                  25                  30

Ala Glu Glu Arg Val Leu Val Arg Asp Phe Gln Arg Leu Leu Gly Val
        35                  40                  45

Ala Val Arg Gln Asp Pro Ala Leu Ser Gln Phe Val Cys Lys Ser Cys
    50                  55                  60

His Ala Gln Phe Tyr Gln Cys His Ser Leu Leu Arg Ser Phe Leu Gln
65                  70                  75                  80

Arg Val Asn Val Ser Pro Thr Gly Arg Arg Lys Pro Cys Ala Lys Val
                85                  90                  95

Gly Ala Gln Leu Pro Ala Gly Ala Glu Glu Gly Ala Cys Leu Val Asp
            100                 105                 110

Leu Ile Thr Ser Ser Pro Gln Cys Leu His Gly Leu Val Gly Trp Val
        115                 120                 125

His Gly His Ala Ala Ser Cys Arg Ala Leu Pro His Leu Gln Arg Thr
    130                 135                 140

Leu Ser Ser Glu Tyr Cys Gly Val Ile Gln Ala Val Trp Gly Cys Asp
145                 150                 155                 160

Gln Gly His Asp Tyr Thr Met Asp Thr Ser Ser Ser Cys Lys Ala Phe
                165                 170                 175
```

```
Leu Leu Asp Ser Ala Leu Ala Val Lys Trp Pro Trp Asp Lys Glu Thr
            180                 185                 190

Ala Pro Arg Leu Pro Gln His Arg Gly Trp Asn Pro Gly Asp Ala Pro
        195                 200                 205

His Thr Ser Gln Gly Lys Gly Thr Gly Thr Pro Val Gly Ala Glu Thr
    210                 215                 220

Lys Ile Leu Pro Ser Thr Asp Glu Ala Gln Pro Pro Ser Asp Ser Asp
225                 230                 235                 240

Ala Val Gly Pro Arg Ser Gly Phe Pro Pro Gln Pro Ser Leu Pro Leu
                245                 250                 255

Cys Gly Ala Pro Gly Gln Leu Gly Glu Lys Gln Val Pro Ser Ser Thr
            260                 265                 270

Ser Asp Asp Arg Arg Arg Leu Glu
        275                 280


<210> 84
<211> 615
<212> PRT
<213> Homo sapiens

<400> 84
Met Ala Glu Arg Ala Leu Glu Pro Glu Ala Glu Ala Glu Ala Glu Ala
  1               5                  10                  15

Gly Ala Gly Gly Glu Ala Ala Ala Glu Glu Gly Ala Ala Gly Arg Lys
             20                  25                  30

Ala Arg Gly Arg Pro Arg Leu Thr Glu Ser Asp Arg Ala Arg Arg Arg
         35                  40                  45

Leu Glu Ser Arg Lys Lys Tyr Asp Val Arg Arg Val Tyr Leu Gly Glu
     50                  55                  60

Ala His Gly Pro Trp Val Asp Leu Arg Arg Arg Ser Gly Trp Ser Asp
 65                  70                  75                  80

Ala Lys Leu Ala Ala Tyr Leu Ile Ser Leu Glu Arg Gly Gln Arg Ser
                 85                  90                  95

Gly Arg His Gly Lys Pro Trp Glu Gln Val Pro Lys Lys Pro Lys Arg
            100                 105                 110

Lys Lys Arg Arg Arg Arg Asn Val Asn Cys Leu Lys Asn Val Val Ile
        115                 120                 125

Trp Tyr Glu Asp His Lys His Arg Cys Pro Tyr Glu Pro His Leu Ala
    130                 135                 140

Glu Leu Asp Pro Thr Phe Gly Leu Tyr Thr Thr Ala Val Trp Gln Cys
```

```
145                 150                 155                 160

Glu Ala Gly His Arg Tyr Phe Gln Asp Leu His Ser Pro Leu Lys Pro
                165                 170                 175

Leu Ser Asp Ser Asp Pro Asp Ser Asp Lys Val Gly Asn Gly Leu Val
            180                 185                 190

Ala Gly Ser Ser Asp Ser Ser Ser Ser Gly Ser Ala Ser Asp Ser Glu
        195                 200                 205

Glu Ser Pro Glu Gly Gln Pro Val Lys Ala Ala Ala Ala Ala Ala Ala
    210                 215                 220

Ala Thr Pro Thr Ser Pro Val Gly Ser Ser Gly Leu Ile Thr Gln Glu
225                 230                 235                 240

Gly Val His Ile Pro Phe Asp Val His His Val Glu Ser Leu Ala Glu
                245                 250                 255

Gln Gly Thr Pro Leu Cys Ser Asn Pro Ala Gly Asn Gly Pro Glu Ala
            260                 265                 270

Leu Glu Thr Val Val Cys Val Pro Val Pro Val Gln Val Gly Ala Gly
        275                 280                 285

Pro Ser Ala Leu Phe Glu Asn Val Pro Gln Glu Ala Leu Gly Glu Val
    290                 295                 300

Val Ala Ser Cys Pro Met Pro Gly Met Val Pro Gly Ser Gln Val Ile
305                 310                 315                 320

Ile Ile Ala Gly Pro Gly Tyr Asp Ala Leu Thr Ala Glu Gly Ile His
                325                 330                 335

Leu Asn Met Ala Ala Gly Ser Gly Val Pro Gly Ser Gly Leu Gly Glu
            340                 345                 350

Glu Val Pro Cys Ala Met Met Glu Gly Val Ala Ala Tyr Thr Gln Thr
        355                 360                 365

Glu Pro Glu Gly Ser Gln Pro Ser Thr Met Asp Ala Thr Ala Val Ala
    370                 375                 380

Gly Ile Glu Thr Lys Lys Glu Lys Glu Asp Leu Cys Leu Leu Lys Lys
385                 390                 395                 400

Glu Glu Lys Glu Glu Pro Val Ala Pro Glu Leu Ala Thr Thr Val Pro
                405                 410                 415

Glu Ser Ala Glu Pro Glu Ala Glu Ala Asp Gly Glu Glu Leu Asp Gly
            420                 425                 430

Ser Asp Met Ser Ala Ile Ile Tyr Glu Ile Pro Lys Glu Pro Glu Lys
        435                 440                 445

Arg Arg Arg Ser Lys Arg Ser Arg Val Met Asp Ala Asp Gly Leu Leu
```

```
    450                 455                 460

Glu Met Phe His Cys Pro Tyr Glu Gly Cys Ser Gln Val Tyr Val Ala
465                 470                 475                 480

Leu Ser Ser Phe Gln Asn His Val Asn Leu Val His Arg Lys Gly Lys
                485                 490                 495

Thr Lys Val Cys Pro His Pro Gly Cys Gly Lys Lys Phe Tyr Leu Ser
            500                 505                 510

Asn His Leu Arg Arg His Met Ile Ile His Ser Gly Val Arg Glu Phe
        515                 520                 525

Thr Cys Glu Thr Cys Gly Lys Ser Phe Lys Arg Lys Asn His Leu Glu
    530                 535                 540

Val His Arg Arg Thr His Thr Gly Glu Thr Pro Leu Gln Cys Glu Ile
545                 550                 555                 560

Cys Gly Tyr Gln Cys Arg Gln Arg Ala Ser Leu Asn Trp His Met Lys
                565                 570                 575

Lys His Thr Ala Glu Val Gln Tyr Asn Phe Thr Cys Asp Arg Cys Gly
            580                 585                 590

Lys Arg Phe Glu Lys Leu Asp Ser Val Lys Phe His Thr Leu Lys Ser
        595                 600                 605

His Pro Asp His Lys Pro Thr
    610                 615
```

<210> 85
<211> 49
<212> PRT
<213> Homo sapiens

<400> 85

```
Asp Cys Phe Lys Lys Met Ala Asp Lys Pro Asp Met Gly Glu Ile Ala
  1               5                  10                  15

Ser Phe Asp Lys Ala Lys Leu Lys Lys Thr Glu Thr Gln Glu Lys Asn
             20                  25                  30

Thr Leu Pro Thr Lys Glu Thr Ile Glu Gln Glu Lys Arg Ser Glu Ile
         35                  40                  45

Ser
```

<210> 86
<211> 44
<212> PRT
<213> Homo sapiens

<400> 86
Met Ala Asp Lys Pro Asp Met Gly Glu Ile Ala Ser Phe Asp Lys Ala
1 5 10 15

Lys Leu Lys Lys Thr Glu Thr Gln Glu Lys Asn Thr Leu Pro Thr Lys
20 25 30

Glu Thr Ile Glu Gln Glu Lys Arg Ser Glu Ile Ser
35 40

<210> 87
<211> 43
<212> PRT
<213> Oryctolagus cuniculus

<400> 87
Ala Asp Lys Pro Asp Met Gly Glu Ile Ala Ser Phe Asp Lys Ala Lys
1 5 10 15

Leu Lys Lys Thr Glu Thr Gln Glu Lys Asn Thr Leu Pro Thr Lys Glu
20 25 30

Thr Ile Glu Gln Glu Lys Arg Ser Glu Ile Ser
35 40

<210> 88
<211> 56
<212> PRT
<213> Rattus norvegicus

<400> 88
Leu Phe Ala Gln Leu Ala Gln Leu Leu Pro Ala Thr Met Ser Asp Lys
1 5 10 15

Pro Asp Met Ala Glu Ile Glu Lys Phe Asp Lys Ser Lys Leu Lys Lys
20 25 30

Thr Glu Thr Gln Glu Lys Asn Pro Leu Pro Ser Lys Glu Thr Ile Glu
35 40 45

Gln Glu Lys Gln Ala Gly Glu Ser
50 55

<210> 89
<211> 298
<212> PRT
<213> Homo sapiens

<400> 89
Leu Phe Val Asp Pro Ser Phe Pro Ala Ala Pro Lys Ser Leu Gly Tyr
1 5 10 15

Lys Pro Leu Gly Pro Arg Gly Ile Glu Trp Lys Arg Pro His Glu Ile
20 25 30

```
Asn Glu Asn Pro Gln Phe Ile Val Gly Gly Ala Thr Arg Thr Asp Ile
         35                  40                  45

Cys Gln Gly Ala Leu Gly Asp Cys Trp Leu Leu Ala Ala Leu Ala Ser
     50                  55                  60

Leu Thr Leu Asn Glu Pro Leu Leu Leu Arg Val Val Pro His Asp Gln
 65                  70                  75                  80

Ser Phe Gln Glu Asn Tyr Ala Gly Ile Phe His Phe Arg Phe Trp Gln
                 85                  90                  95

Phe Gly Glu Trp Val Asp Val Val Val Asp Asp Leu Leu Pro Thr Lys
            100                 105                 110

Asp Gly Lys Leu Leu Phe Val His Ser Ala Glu Arg Asn Glu Phe Trp
        115                 120                 125

Ser Ala Leu Leu Glu Lys Ala Tyr Ala Lys Leu Asn Gly Cys Tyr Glu
    130                 135                 140

Ala Leu Ser Gly Gly Ser Thr Thr Glu Ala Leu Glu Asp Leu Thr Gly
145                 150                 155                 160

Gly Val Cys Glu Ser Tyr Glu Leu Lys Leu Ala Pro Ser Ser Met Leu
                165                 170                 175

Asn Leu Gly Asn Ile Ile Lys Lys Met Leu Glu Arg Gly Ser Leu Leu
            180                 185                 190

Gly Cys Ser Ile Asp Ile Thr Ser Pro Val Asp Met Glu Ala Arg Met
        195                 200                 205

Ala Lys Gly Leu Val Lys Gly His Ala Tyr Ser Val Thr Gly Val Lys
    210                 215                 220

Glu Val Asn Tyr Arg Gly Glu Gly Val Lys Leu Ile Arg Leu Arg Asn
225                 230                 235                 240

Pro Trp Gly Gln Val Glu Trp Thr Gly Asp Trp Ser Asp Ser Ser Pro
                245                 250                 255

Asp Trp Asn Ile Val Asp Pro Asp Glu Lys Ala Arg Leu Gln Leu Lys
            260                 265                 270

Phe Glu Asp Gly Glu Phe Trp Met Ser Phe Glu Asp Phe Leu Arg His
        275                 280                 285

Phe Ser Arg Leu Glu Ile Cys Asn Leu Thr
    290                 295
```

<210> 90
<211> 323
<212> PRT
<213> Homo sapiens

<400> 90

```
Phe Glu Asn Gln Asp Tyr Glu Glu Leu Arg Gln Glu Cys Leu Glu Glu
  1               5                  10                  15

Gly Gly Leu Phe Val Asp Pro Leu Phe Pro Ala Lys Pro Ser Ser Leu
             20                  25                  30

Phe Phe Ser Gln Leu Gln Arg Lys Phe Val Val Trp Lys Arg Pro His
         35                  40                  45

Glu Ile Phe Glu Asp Pro Pro Leu Ile Val Gly Gly Ala Ser Arg Thr
     50                  55                  60

Asp Ile Cys Gln Gly Val Leu Gly Asp Cys Trp Leu Leu Ala Ala Leu
 65                  70                  75                  80

Ala Ala Leu Thr Leu Arg Glu Glu Leu Leu Ala Arg Val Ile Pro Lys
                 85                  90                  95

Asp Gln Glu Phe Ser Glu Asn Tyr Ala Gly Ile Tyr His Phe Arg Phe
            100                 105                 110

Trp Arg Tyr Gly Lys Trp Val Asp Val Val Ile Asp Asp Arg Leu Pro
        115                 120                 125

Thr Tyr Asn Gly Asp Leu Leu Phe Met His Ser Asn Ser Arg Asn Glu
    130                 135                 140

Phe Trp Ser Ala Leu Leu Glu Lys Ala Tyr Ala Lys Leu Arg Gly Cys
145                 150                 155                 160

Tyr Glu Ala Leu Lys Gly Gly Ser Thr Thr Glu Ala Leu Glu Asp Leu
                165                 170                 175

Thr Gly Gly Val Ala Glu Ser Ile Glu Leu Lys Lys Ile Ser Lys Asp
            180                 185                 190

Pro Asp Glu Leu Phe Lys Asp Leu Lys Lys Ala Phe Glu Arg Gly Ser
        195                 200                 205

Leu Met Gly Cys Ser Ile Gly Ala Gly Thr Ala Val Glu Glu Glu Glu
    210                 215                 220

Gln Lys Arg Asn Gly Leu Val Lys Gly His Ala Tyr Ser Val Thr Asp
225                 230                 235                 240

Val Arg Glu Val Asp Gly Arg Arg Arg Gln Lys Leu Leu Arg Leu Arg
                245                 250                 255

Asn Pro Trp Gly Glu Ser Glu Trp Asn Gly Pro Trp Ser Asp Asp Ser
            260                 265                 270

Pro Glu Trp Arg Ser Val Ser Ala Glu Glu Lys Lys Asn Leu Gly Leu
        275                 280                 285

Thr Met Asp Asp Asp Gly Glu Phe Trp Met Ser Phe Glu Asp Phe Leu
```

```
    290                 295                 300

Arg His Phe Thr Lys Val Glu Ile Cys Asn Leu Arg Pro Asp Trp Phe
305                 310                 315                 320

Glu Tyr Arg
```

<210> 91
<211> 123
<212> PRT
<213> Homo sapiens

<400> 91

```
Tyr Ser Glu Leu Glu Lys Ala Val Arg Lys Ala Thr Asn Asn Asp Pro
  1               5                  10                  15

Trp Gly Pro Lys Gly Lys His Leu Asp Glu Ile Leu Gln Gly Thr Tyr
             20                  25                  30

Asp Glu Lys Ser Phe Pro Glu Ile Met Asp Met Leu Asp Lys Arg Leu
         35                  40                  45

Leu Glu Gly Lys Asn Trp Arg Val Val Tyr Lys Ala Leu Ile Leu Leu
     50                  55                  60

His Tyr Leu Leu Arg Asn Gly Ser Glu Arg Val Val Gln Glu Ala Arg
 65                  70                  75                  80

Arg Asn Asn Tyr Arg Ile Arg Glu Leu Glu Asp Phe Arg Lys Val Asp
                 85                  90                  95

Ser Ser Gly Lys Asp Gln Gly Ala Asn Ile Arg Thr Tyr Ala Lys Tyr
            100                 105                 110

Leu Leu Glu Arg Leu Glu Asp Asp Gly Arg Leu
        115                 120
```

<210> 92
<211> 127
<212> PRT
<213> Homo sapiens

<400> 92

```
Ser Asp Leu Glu Val Lys Val Arg Lys Ala Thr Asn Asn Asp Glu Trp
  1               5                  10                  15

Gly Pro Lys Gly Lys His Leu Arg Glu Ile Ile Gln Gly Thr His Asn
             20                  25                  30

Glu Lys Ser Ser Val Ala Glu Ile Met Ala Val Leu Trp Arg Arg Leu
         35                  40                  45

Asn Asp Thr Lys Asn Trp Arg Val Val Tyr Lys Ala Leu Ile Leu Leu
     50                  55                  60
```

```
His Tyr Leu Leu Arg Asn Gly Ser Pro Asn Val Val Leu Glu Ala Leu
 65                  70                  75                  80

Arg Asn Arg Asn Arg Ile Leu Thr Leu Ser Asp Phe Arg Asp Ile Asp
                 85                  90                  95

Ser Arg Gly Lys Asp Gln Gly Ala Asn Ile Arg Thr Tyr Ala Lys Tyr
            100                 105                 110

Leu Leu Glu Arg Leu Glu Asp Asp Gly Arg Leu Lys Lys Glu Arg
        115                 120                 125


<210> 93
<211> 254
<212> PRT
<213> Homo sapiens

<400> 93
Gly Asn Leu Leu Val Ile Leu Val Ile Leu Arg Thr Lys Lys Leu Arg
  1               5                  10                  15

Thr Pro Thr Asn Ile Phe Leu Leu Asn Leu Ala Val Ala Asp Leu Leu
             20                  25                  30

Phe Leu Leu Thr Leu Pro Pro Trp Ala Leu Tyr Tyr Leu Val Gly Gly
         35                  40                  45

Asp Trp Val Phe Gly Asp Ala Leu Cys Lys Leu Val Gly Ala Leu Phe
     50                  55                  60

Val Val Asn Gly Tyr Ala Ser Ile Leu Leu Leu Thr Ala Ile Ser Ile
 65                  70                  75                  80

Asp Arg Tyr Leu Ala Ile Val His Pro Leu Arg Tyr Arg Arg Ile Arg
                 85                  90                  95

Thr Pro Arg Arg Ala Lys Val Leu Ile Leu Leu Val Trp Val Leu Ala
            100                 105                 110

Leu Leu Leu Ser Leu Pro Pro Leu Leu Phe Ser Trp Leu Arg Thr Val
        115                 120                 125

Glu Glu Gly Asn Thr Thr Val Cys Leu Ile Asp Phe Pro Glu Glu Ser
    130                 135                 140

Val Lys Arg Ser Tyr Val Leu Leu Ser Thr Leu Val Gly Phe Val Leu
145                 150                 155                 160

Pro Leu Leu Val Ile Leu Val Cys Tyr Thr Arg Ile Leu Arg Thr Leu
                165                 170                 175

Arg Lys Arg Ala Arg Ser Gln Arg Ser Leu Lys Arg Arg Ser Ser Ser
            180                 185                 190

Glu Arg Lys Ala Ala Lys Met Leu Leu Val Val Val Val Val Phe Val
```

```
        195                 200                 205

Leu Cys Trp Leu Pro Tyr His Ile Val Leu Leu Leu Asp Ser Leu Cys
    210                 215                 220

Leu Leu Ser Ile Trp Arg Val Leu Pro Thr Ala Leu Leu Ile Thr Leu
225                 230                 235                 240

Trp Leu Ala Tyr Val Asn Ser Cys Leu Asn Pro Ile Ile Tyr
                245                 250


<210> 94
<211> 101
<212> PRT
<213> Homo sapiens

<400> 94
Thr Leu Thr Val Lys Ile Ile Ser Ala Arg Asn Leu Pro Pro Lys Asp
  1               5                  10                  15

Lys Gly Gly Lys Ser Asp Pro Tyr Val Lys Val Ser Leu Asp Gly Asp
             20                  25                  30

Pro Arg Glu Lys Lys Lys Thr Lys Val Val Lys Asn Thr Leu Asn Pro
         35                  40                  45

Val Trp Asn Glu Thr Phe Glu Phe Glu Val Pro Pro Pro Glu Leu Ser
     50                  55                  60

Glu Leu Glu Ile Glu Val Tyr Asp Lys Asp Arg Phe Ser Arg Asp Asp
 65                  70                  75                  80

Phe Ile Gly Arg Val Thr Ile Pro Leu Ser Asp Leu Leu Leu Gly Gly
                85                  90                  95

Arg His Glu Lys Leu
            100


<210> 95
<211> 88
<212> PRT
<213> Homo sapiens

<400> 95
Leu Thr Val Lys Val Ile Ser Ala Arg Asn Leu Pro Lys Met Asp Met
  1               5                  10                  15

Asn Gly Leu Ser Asp Pro Tyr Val Lys Val Asp Leu Asp Gly Asp Pro
             20                  25                  30

Lys Asp Thr Lys Lys Phe Lys Thr Lys Thr Val Lys Lys Thr Leu Asn
         35                  40                  45

Pro Val Trp Asn Glu Thr Phe Val Phe Glu Lys Val Pro Leu Pro Asp
     50                  55                  60
```

```
Leu Ala Ser Leu Arg Phe Ala Val Tyr Asp Glu Asp Arg Phe Ser Arg
 65                  70                  75                  80

Asp Asp Phe Ile Gly Gln Val Thr
                 85
```

<210> 96
<211> 230
<212> PRT
<213> Homo sapiens

<400> 96

```
Arg Ile Val Gly Gly Ser Glu Ala Asn Ile Gly Ser Phe Pro Trp Gln
  1               5                  10                  15

Val Ser Leu Gln Tyr Arg Gly Gly Arg His Phe Cys Gly Gly Ser Leu
             20                  25                  30

Ile Ser Pro Arg Trp Val Leu Thr Ala Ala His Cys Val Tyr Gly Ser
         35                  40                  45

Ala Pro Ser Ser Ile Arg Val Arg Leu Gly Ser His Asp Leu Ser Ser
     50                  55                  60

Gly Glu Glu Thr Gln Thr Val Lys Val Ser Lys Val Ile Val His Pro
 65                  70                  75                  80

Asn Tyr Asn Pro Ser Thr Tyr Asp Asn Asp Ile Ala Leu Leu Lys Leu
                 85                  90                  95

Ser Glu Pro Val Thr Leu Ser Asp Thr Val Arg Pro Ile Cys Leu Pro
            100                 105                 110

Ser Ser Gly Tyr Asn Val Pro Ala Gly Thr Thr Cys Thr Val Ser Gly
        115                 120                 125

Trp Gly Arg Thr Ser Glu Ser Ser Gly Ser Leu Pro Asp Thr Leu Gln
    130                 135                 140

Glu Val Asn Val Pro Ile Val Ser Asn Ala Thr Cys Arg Arg Ala Tyr
145                 150                 155                 160

Ser Gly Gly Pro Ala Ile Thr Asp Asn Met Leu Cys Ala Gly Gly Leu
                165                 170                 175

Glu Gly Gly Lys Asp Ala Cys Gln Gly Asp Ser Gly Gly Pro Leu Val
            180                 185                 190

Cys Asn Asp Pro Arg Trp Val Leu Val Gly Ile Val Ser Trp Gly Ser
        195                 200                 205

Tyr Gly Cys Ala Arg Pro Asn Lys Pro Gly Val Tyr Thr Arg Val Ser
    210                 215                 220

Ser Tyr Leu Asp Trp Ile
```

225 230

<210> 97
<211> 217
<212> PRT
<213> Homo sapiens

<400> 97
Ile Val Gly Gly Arg Glu Ala Gln Ala Gly Ser Phe Pro Trp Gln Val
1 5 10 15

Ser Leu Gln Val Ser Ser Gly His Phe Cys Gly Gly Ser Leu Ile Ser
20 25 30

Glu Asn Trp Val Leu Thr Ala Ala His Cys Val Ser Gly Ala Ser Ser
35 40 45

Val Arg Val Val Leu Gly Glu His Asn Leu Gly Thr Thr Glu Gly Thr
50 55 60

Glu Gln Lys Phe Asp Val Lys Lys Ile Ile Val His Pro Asn Tyr Asn
65 70 75 80

Pro Asp Thr Asn Asp Ile Ala Leu Leu Lys Leu Lys Ser Pro Val Thr
85 90 95

Leu Gly Asp Thr Val Arg Pro Ile Cys Leu Pro Ser Ala Ser Ser Asp
100 105 110

Leu Pro Val Gly Thr Thr Cys Ser Val Ser Gly Trp Gly Arg Thr Lys
115 120 125

Asn Leu Gly Thr Ser Asp Thr Leu Gln Glu Val Val Val Pro Ile Val
130 135 140

Ser Arg Glu Thr Cys Arg Ser Ala Tyr Gly Gly Thr Val Thr Asp Thr
145 150 155 160

Met Ile Cys Ala Gly Ala Leu Gly Gly Lys Asp Ala Cys Gln Gly Asp
165 170 175

Ser Gly Gly Pro Leu Val Cys Ser Asp Gly Glu Leu Val Gly Ile Val
180 185 190

Ser Trp Gly Tyr Gly Cys Ala Val Gly Asn Tyr Pro Gly Val Tyr Thr
195 200 205

Arg Val Ser Arg Tyr Leu Asp Trp Ile
210 215

<210> 98
<211> 554
<212> PRT
<213> Homo sapiens

<400> 98

```
Leu Trp Leu Leu Cys Leu Leu Ser Leu Leu Val Gly Ser Ala Arg Gly
  1               5                  10                  15

Ala Glu Gly Ser Lys Ser Arg Ser Cys Ala Glu Val Arg Gln Leu Phe
             20                  25                  30

Gly Ala Lys Gly Phe Ser Leu Asn Asp Val Pro Gln Ser Glu Ile Ser
         35                  40                  45

Gly Glu His Leu Gln Ile Cys Pro Gln Gly Tyr Thr Cys Cys Ser Ser
     50                  55                  60

Glu Met Glu Glu Lys Leu Gln Leu Lys Ala Arg Gly Asp Phe Glu Gln
 65                  70                  75                  80

Leu Leu Gln Asp Ser Ser Ser Ser Leu Gln Phe Leu Leu Ala Thr Asn
                 85                  90                  95

Ala Lys Lys Phe Gln Glu His Phe Glu Glu Leu Leu Asn Ile Ser Glu
            100                 105                 110

Asn Tyr Leu Asn Ala Leu Phe Ser Lys Thr Tyr Gly Arg Leu Tyr Pro
        115                 120                 125

Gln Asn Ala Glu Met Phe Lys Asp Leu Phe Thr Glu Leu Arg Leu Tyr
    130                 135                 140

Tyr Arg Gly Ser Asn Ile Asn Leu Glu Glu Ala Leu Asn Glu Phe Trp
145                 150                 155                 160

Ala Arg Leu Leu Glu Arg Ala Phe Lys Gln Leu His Gly Gln Tyr Asp
                165                 170                 175

Ser Pro Asp Asp Tyr Leu Glu Cys Leu Arg Lys Ala Arg Glu Asp Leu
            180                 185                 190

Lys Pro Phe Gly Asp Ile Pro Arg Arg Leu Met Leu Gln Val Thr Arg
        195                 200                 205

Ala Leu Val Ala Ala Arg Thr Phe Leu Gln Gly Leu Asn Val Gly Ile
    210                 215                 220

Glu Val Val Ser Lys Val Asp Gln Val Pro Leu Ser Lys Glu Cys Ser
225                 230                 235                 240

Arg Ala Leu Leu Lys Met Ile Tyr Cys Pro His Cys Arg Gly Leu Pro
                245                 250                 255

Ser Val Lys Pro Cys Tyr Gly Tyr Cys Leu Asn Val Met Arg Gly Cys
            260                 265                 270

Leu Ala Asn Gln Ala Asp Leu Asp Pro Glu Trp Arg Gly Tyr Ile Asp
        275                 280                 285

Ser Leu Glu Leu Leu Ala Asp Lys Met Leu Gly Pro Tyr Asp Ile Glu
    290                 295                 300
```

```
Asn Val Ile Leu Ser Ile His Thr Lys Ile Ser Glu Ala Ile Met Ala
305                 310                 315                 320

Leu Gln Glu Asn Gly Val Lys Leu Thr Ala Lys Val Phe Gln Gly Cys
                325                 330                 335

Gly Thr Pro Lys Pro Thr Pro Tyr Gly Ser Ala Ser Gly Pro Glu Asp
            340                 345                 350

Lys Arg Ser Lys Arg Pro Leu Lys Pro Glu Glu Arg Pro Thr Thr Glu
        355                 360                 365

Thr Leu Glu Arg Leu Val Val Glu Phe Lys Glu Lys Leu Lys Lys Val
    370                 375                 380

Lys Ser Phe Trp Ser Thr Leu Pro Gly Thr Leu Cys Ser Asp Arg Met
385                 390                 395                 400

Ala Ala Ser Ala Ala Asp Asp Asp Pro Cys Trp Asn Gly Asp Gly Val
                405                 410                 415

Gly Arg Tyr Leu Gln Glu Val Val Gly Asn Gly Leu Ala Asn Gln Ile
            420                 425                 430

Asn Asn Pro Glu Val Glu Val Asp Gly Ser Lys Pro Asp Met Val Ile
        435                 440                 445

Arg Gln Gln Ile Asp Lys Leu Lys His Met Thr Asn Arg Leu Leu Ala
    450                 455                 460

Ala Ala Ser Gly Asn Asp Val Asp Phe Gln Asp Ala Ser Asp Asp Ser
465                 470                 475                 480

Ser Gly Ser Gly Ser Gly Asp Gly Cys Gly Asp Asp Asp Cys Gly Gly
                485                 490                 495

Tyr Gly Ser Ala Lys Val Ser Ser Thr Arg Asp Pro Asp Pro His Asp
            500                 505                 510

Thr Pro Gly Glu Ser Glu Gln Glu Gly Gln Lys Asp Val Gly Ser Ser
        515                 520                 525

Gly Ser Thr Ala Gly Ser Pro Pro Ala Leu Leu Leu Leu Thr Ser Met
    530                 535                 540

Leu Ile Leu Val Val Gln Arg Leu Leu Trp
545                 550
```

<210> 99
<211> 256
<212> PRT
<213> Homo sapiens

<400> 99
Tyr Glu Leu Leu Glu Val Leu Gly Lys Gly Ala Phe Gly Lys Val Tyr

```
  1               5                  10                  15

Leu Ala Arg Asp Lys Lys Thr Gly Lys Leu Val Ala Ile Lys Val Ile
            20                  25                  30

Lys Lys Glu Lys Leu Lys Lys Lys Lys Arg Glu Arg Ile Leu Arg Glu
        35                  40                  45

Ile Lys Ile Leu Lys Lys Leu Asp His Pro Asn Ile Val Lys Leu Tyr
    50                  55                  60

Asp Val Phe Glu Asp Asp Asp Lys Leu Tyr Leu Val Met Glu Tyr Cys
65                  70                  75                  80

Glu Gly Gly Asp Leu Phe Asp Leu Leu Lys Lys Arg Gly Arg Leu Ser
                85                  90                  95

Glu Asp Glu Ala Arg Phe Tyr Ala Arg Gln Ile Leu Ser Ala Leu Glu
            100                 105                 110

Tyr Leu His Ser Gln Gly Ile Ile His Arg Asp Leu Lys Pro Glu Asn
        115                 120                 125

Ile Leu Leu Asp Ser Asp Gly His Val Lys Leu Ala Asp Phe Gly Leu
    130                 135                 140

Ala Lys Gln Leu Asp Ser Gly Gly Thr Leu Leu Thr Thr Phe Val Gly
145                 150                 155                 160

Thr Pro Glu Tyr Met Ala Pro Glu Val Leu Leu Gly Lys Gly Tyr Gly
                165                 170                 175

Lys Ala Val Asp Ile Trp Ser Leu Gly Val Ile Leu Tyr Glu Leu Leu
            180                 185                 190

Thr Gly Lys Pro Pro Phe Pro Gly Asp Asp Gln Leu Leu Ala Leu Phe
        195                 200                 205

Lys Lys Ile Gly Lys Pro Pro Pro Pro Phe Pro Pro Pro Glu Trp Lys
    210                 215                 220

Ile Ser Pro Glu Ala Lys Asp Leu Ile Lys Lys Leu Leu Val Lys Asp
225                 230                 235                 240

Pro Glu Lys Arg Leu Thr Ala Glu Glu Ala Leu Glu His Pro Phe Phe
                245                 250                 255
```

<210> 100
<211> 256
<212> PRT
<213> Homo sapiens

<400> 100

```
Tyr Glu Leu Gly Glu Lys Leu Gly Ser Gly Ala Phe Gly Lys Val Tyr
  1               5                  10                  15

Lys Gly Lys His Lys Asp Thr Gly Glu Ile Val Ala Ile Lys Ile Leu
            20                  25                  30

Lys Lys Arg Ser Leu Ser Glu Lys Lys Lys Arg Phe Leu Arg Glu Ile
         35                  40                  45

Gln Ile Leu Arg Arg Leu Ser His Pro Asn Ile Val Arg Leu Leu Gly
     50                  55                  60

Val Phe Glu Glu Asp Asp His Leu Tyr Leu Val Met Glu Tyr Met Glu
 65                  70                  75                  80

Gly Gly Asp Leu Phe Asp Tyr Leu Arg Arg Asn Gly Leu Leu Leu Ser
                 85                  90                  95

Glu Lys Glu Ala Lys Lys Ile Ala Leu Gln Ile Leu Arg Gly Leu Glu
            100                 105                 110

Tyr Leu His Ser Arg Gly Ile Val His Arg Asp Leu Lys Pro Glu Asn
        115                 120                 125

Ile Leu Leu Asp Glu Asn Gly Thr Val Lys Ile Ala Asp Phe Gly Leu
    130                 135                 140

Ala Arg Lys Leu Glu Ser Ser Ser Tyr Glu Lys Leu Thr Thr Phe Val
145                 150                 155                 160

Gly Thr Pro Glu Tyr Met Ala Pro Glu Val Leu Glu Gly Arg Gly Tyr
                165                 170                 175

Ser Ser Lys Val Asp Val Trp Ser Leu Gly Val Ile Leu Tyr Glu Leu
            180                 185                 190

Leu Thr Gly Lys Leu Pro Phe Pro Gly Ile Asp Pro Leu Glu Glu Leu
        195                 200                 205

Phe Arg Ile Lys Glu Arg Pro Arg Leu Arg Leu Pro Leu Pro Pro Asn
    210                 215                 220

Cys Ser Glu Glu Leu Lys Asp Leu Ile Lys Lys Cys Leu Asn Lys Asp
225                 230                 235                 240

Pro Glu Lys Arg Pro Thr Ala Lys Glu Ile Leu Asn His Pro Trp Phe
                245                 250                 255
```

<210> 101
<211> 23
<212> PRT
<213> Homo sapiens

<400> 101
Tyr Lys Cys Pro Asp Cys Gly Lys Ser Phe Ser Arg Lys Ser Asn Leu
1 5 10 15

Lys Arg His Leu Arg Thr His
20

<210> 102
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 102
cagcctaatg ctgaaacctt ct 22

<210> 103
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 103
atcctcagtt ccgtttaacg ctgctg 26

<210> 104
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 104
atcctcgtca tcctcctcat 20

<210> 105
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 105

cacgtttaca aggccatgac 20

<210> 106
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 106
atggagtacc tcatcaagac cggctc 26

<210> 107
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 107
atgttctcct tgcactgctg 20

<210> 108
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 108
gccagaaagg caactattca g 21

<210> 109
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 109
aacttctcaa ccagccacac catggt 26

<210> 110
<211> 22

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 110
agcaactcca ctaatgagca aa 22

<210> 111
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 111
agcagtgcag ttgtgaaagt tt 22

<210> 112
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 112
tgattcatgg attcacccag tcatta 26

<210> 113
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 113
cagaactgag ccagcatcat 20

<210> 114
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer

Sequence

<400> 114
tgagaatcag atccatgaag ct 22

<210> 115
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 115
ccattagctg ctctgaacac ctttgg 26

<210> 116
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 116
gtcgctgacc accacatata gt 22

<210> 117
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 117
ctgagagcga gttactgctc at 22

<210> 118
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 118
tgattcatat tgccaaactg aactctcttg 30

<210> 119
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 119
tgtctccttt catcttgcaa ga 22

<210> 120
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 120
actccaccaa gaagatccag tt 22

<210> 121
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 121
tctcttctgg aagctctgcg acttca 26

<210> 122
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 122
gcacgaagaa gaggaatttc tt 22

<210> 123
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 123
ctggtctctg ccatcatcac 20

<210> 124
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 124
cttagcgtca ctgtcgtcct cgctag 26

<210> 125
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 125
tgtagcgttt gcccagttt 19

<210> 126
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 126
actctctgac ccagctcttc tc 22

<210> 127
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 127
ccactcctac ggccgcctgt atg 23

<210> 128
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 128
gagaacaggc cattgaatat ga 22

<210> 129
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 129
actctctgac ccagctcttc tc 22

<210> 130
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 130
ccactcctac ggccgcctgt atg 23

<210> 131
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 131
gagaacaggc cattgaatat ga 22

<210> 132

<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 132
ccaggagttt gtcaataaat gc 22

<210> 133
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 133
ctcatcaaga acccagcgga gcg 23

<210> 134
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 134
ttgatgaagg tgtggtttgt g 21

<210> 135
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 135
agaaaatggc agacaaacca 20

<210> 136
<211> 25
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 136
aatcgccagc ttcaataggg ccaag 25

<210> 137
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 137
gcgtctccgt tttcttcag 19